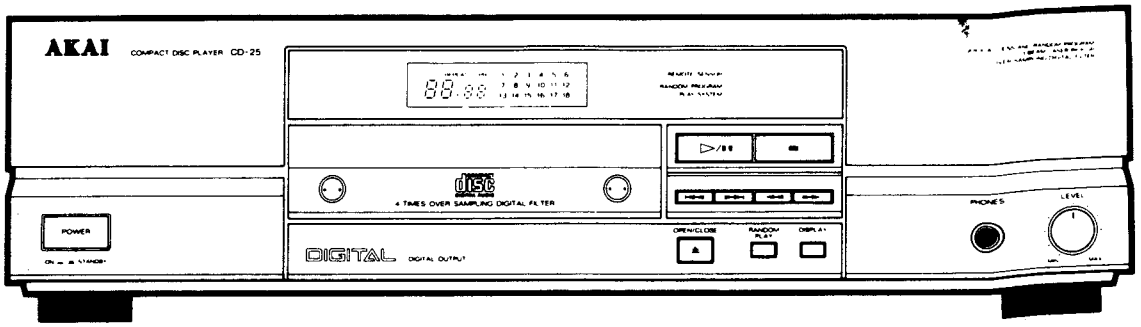
AKAI SERVICE MANUAL



COMPACT disc DIGITAL AUDIO

COMPACT DISC PLAYER

MODEL CD-25

SPECIFICATIONS

Pick-up system	3 beam laser pick-up
Sampling frequency	44.1kHz
Digital filter	16 bit,4 times over sampling
D/A converter	16 bit linear
Error correction system	Cross Interleave Reed Solomon
Number of channels	2 channels stereo
Frequency response	4Hz to 20kHz ± 0.5dB
Dynamic range	92dB
S/N ratio	100dB
Total harmonic distortion	0.013%
Wow & flutter	Less than measurable limits
Output level	
Analog output (line)	2V(0dB)
Digital output (coaxial)	0.5V p-p/750ohms
Headphone output	70mW/32ohms
Power requirements	220V, 50Hz for Europe except UK 240V,50Hz for UK and Australia 110V-120V/220V-240V,50Hz/60Hz convertible for other countries
Dimensions	425(W) × 121(H) × 343(D)mm (16.7 × 4.8 × 13.5 inches)
Weight	3.6kg (7.9 lbs)

Standard accessories

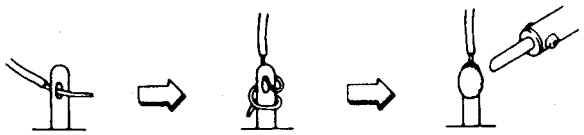
Connection cord	×1
Remote control unit	×1
Batteries for the remote control unit	×2
Operator's manual	×1

*** For improvement purposes, specifications and design are subject to change without notice.**

★SAFETY INSTRUCTIONS

PRECAUTIONS DURING SERVICING

1. Parts identified by the ⚠ (*) symbol are critical for safety. Replace only with parts number specified.
2. In addition to safety, other parts and assemblies are specified for conformance with such regulations as those applying to spurious radiation.
   These must also be replaced only with specified replacements.
   Examples: RF converters, tuner units, antenna selector switches, RF cables, noise blocking capacitors, noise blocking filters, etc.
3. Use specified internal wiring. Note especially:
   1) Wires covered with PVC tubing
   2) Double insulated wires
   3) High voltage leads
4. Use specified insulating materials for hazardous live parts. Note especially:
   1) Insulation Tape
   2) PVC tubing
   3) Spacers (Insulating Barriers)
   4) Insulation sheets for transistors
   5) Plastic screws for fixing microswitch (especially in turntable)
5. When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.), wrap ends of wires securely about the terminals before soldering.



6. Observe that wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.).
7. Check that replaced wires do not contact sharp edged or pointed parts.
8. Also check areas surrounding repaired locations.
9. Use care that foreign objects (screws, solder droplets, etc.) do not remain inside the set.

SAFETY CHECK AFTER SERVICING

After servicing, make measurements of leakage-current or resistance in order to determine that exposed parts are acceptably insulated from the supply circuit.
The leakage-current measurement should be done between accessible metal parts (such as chassis, ground terminal, microphone jacks, signal-input/output connectors, etc.) and the earth ground through a resister of 1500 ohms paralleled with a 0.15 μF capacitor, under the unit's normal working conditions. The leakage-current should be less than 0.5 mA rms AC.
The resistance measurement should be done between accessible exposed metal parts and power cord plug prongs with the power switch (if included) "ON". The resistance should be more than 2.2 Mohms.

★INFORMATION

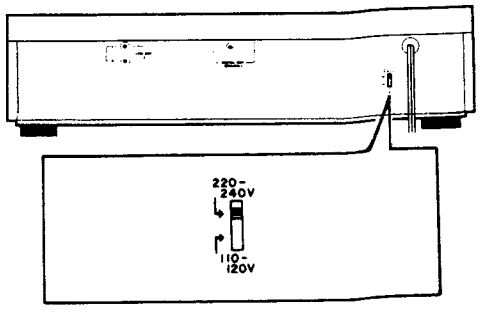
SYMBOLS FOR PRIMARY DESTINATION

Alphabet indicates the destination of the units as listed below.

Symbols	Principal Destinations
A	USA
B	UK
C	Canada
E	Europe (except UK)
J	Japan
S	Australia
V	W. Germany only
U	Universal Area
Y*	Custom version

VOLTAGE CONVERSION (U Model only)

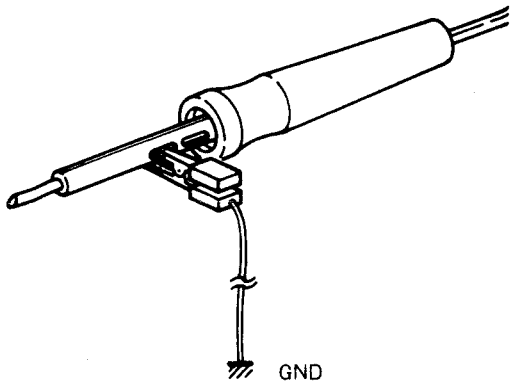
Before connecting the power cord. Set the VOLTAGESELECTOR located on the rear panel with a screwdriver so that the correct voltage is indicated.



PRECAUTIONS IN REPAIRING

When repairing or adjusing the unit, pleae note the following points.

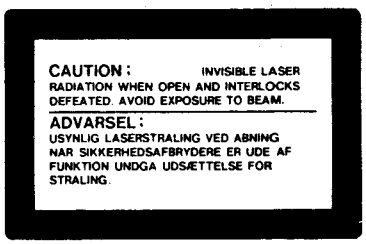
1. Do not put excessive pressure on the mechanical part (operation part), including the pick-up block, as extremely high mechanical precision is required in these parts.
2. When the base is removed for repair or adjustment, make sure that there are no metal obiects in the narrow gap between the P.C. board or the mecha parts and the base.
3. The Micro-Computer and the CD signal processing ICs can be damaged by static electricity or leakage from a soldering iron during repairing.
   While soldering, please take the precautions against leakage as in the illustration.



4. Do not loosen any screws in the pick-up block.
   When handing the pick-up block, please refer to the points to NOTE when replacing the pick-up block.
5. Keep safety for hazardous invisible Laser Radiation, DO NOT watch the Laser Beam (Objective lens) directly.
6. Models for the some countries, laser warning labels are affixed on the unit and inside of the unit, as shown below.
   Read it carefully for your safety, when repairing or adjusting the unit.

[DENMARK, UK, USA]

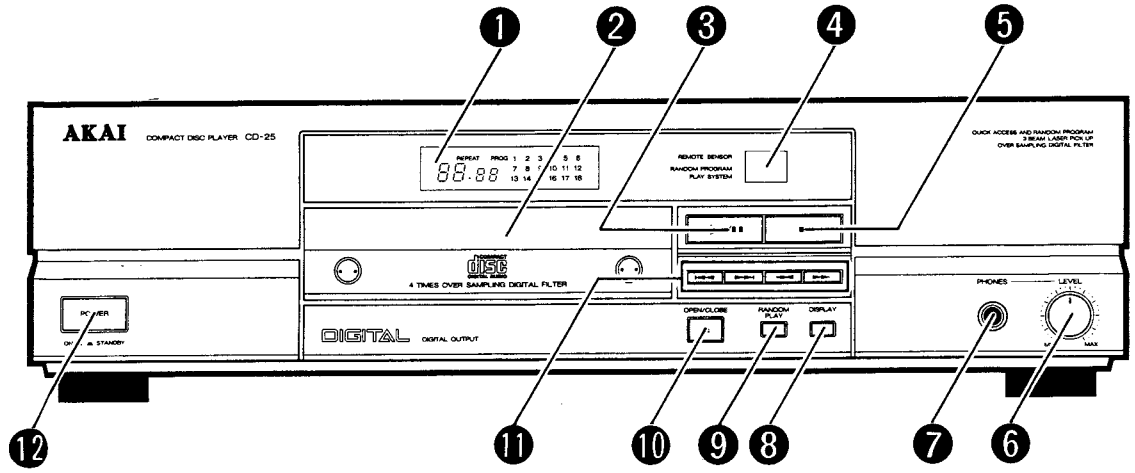
A Label affixed on the unit


CAUTION : INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCKS DEFEATED. AVOID EXPOSURE TO BEAM.
ADVARSEL :
USYNLIG LASERSTRALING VED ABNING NAR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION UNDGA UDSÆTTELSE FOR STRALING.

A Label affixed inside of the unit

I. CONTROLS

1-1. FRONT PANEL



❶ **FL (Fluorescent) Display**
Tells you what the CD player is doing.

❷ **Disc Drawer**
Load a compact disc here.

❸ **▷ / II PLAY/PAUSE Button**
To start and stop playback temporarily.

❹ **REMOTE SENSOR Window**
For reception of the remote control signal from the provided RC-C25 remote control unit.
Keep away from strong light and direct sunlight as this will interfere with the remote control function.

❺ **■ STOP Button**
To stop playback.

❻ **LEVEL Control**
To adjust the PHONES jack output levels.

❼ **PHONES Jack**
For headphone listening.

❽ **DISPLAY Button**
To display the total remaining playback time, elapsed playback time or the track and index number on the digital display.

❾ **RANDOM PLAY Button**
To start random playback.

❿ **▲ OPEN/CLOSE Button**
To open and close the disc drawer.

⓫ **◀◀ / ▶▶ and ⏮ / ⏭ Search Buttons**

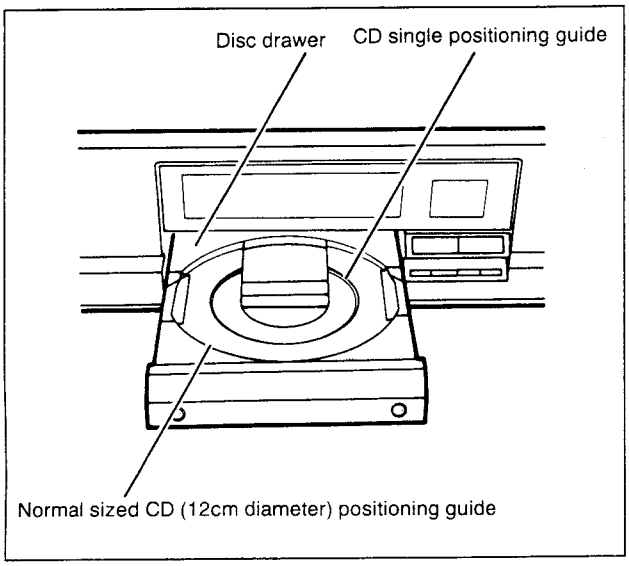
◀◀ / ▶▶ Buttons
For manual search during playback.
⏮ / ⏭ Buttons
To skip tracks during playback.

⓬ **POWER Button (ON ⏤ / OFF ⏏)**
To turn the power on and off.

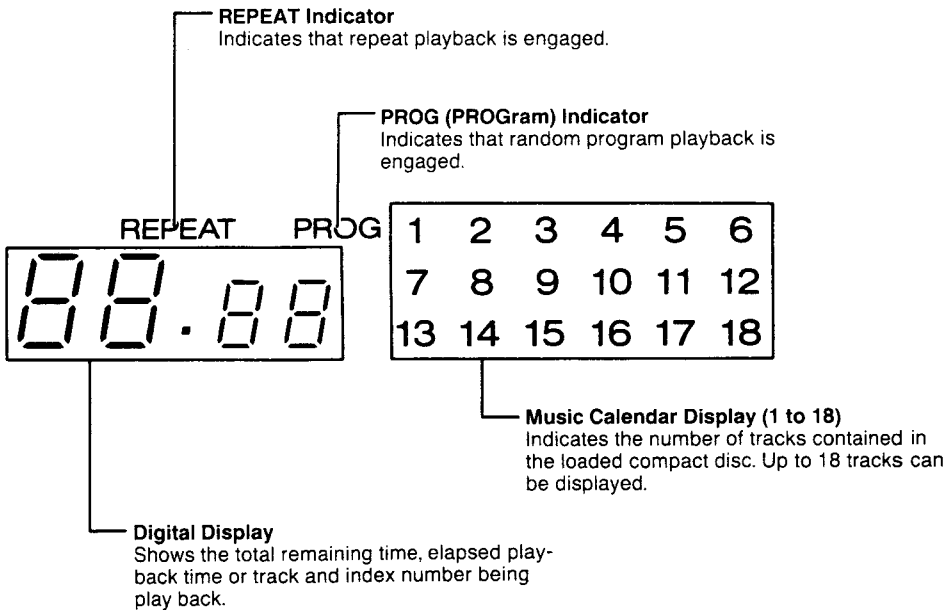
Attention
The POWER button is not a primary power switch. Even when the POWER button is set to STANDBY ⏏, the power supply to this CD player is not completely turned off. If you wish to completely turn the power off, disconnect the power cord from the household AC outlet.

On the disc drawer

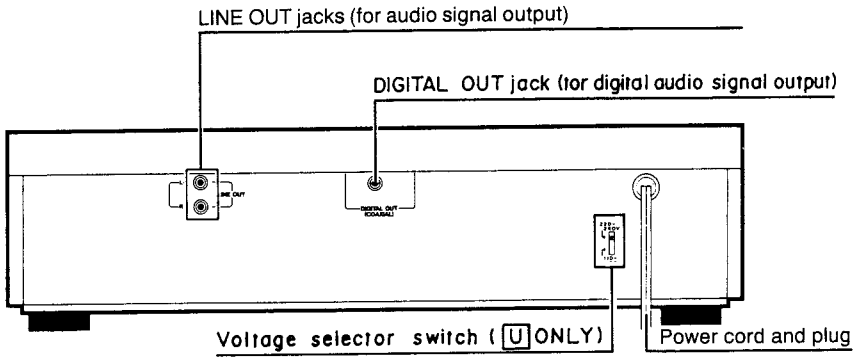
The disc drawer of this CD player is capable of holding a CD single (8cm diameter CD) for playback.
Place the CD single on the center of the disc drawer as shown in the following illustration.



1-2. FL DISPLAY

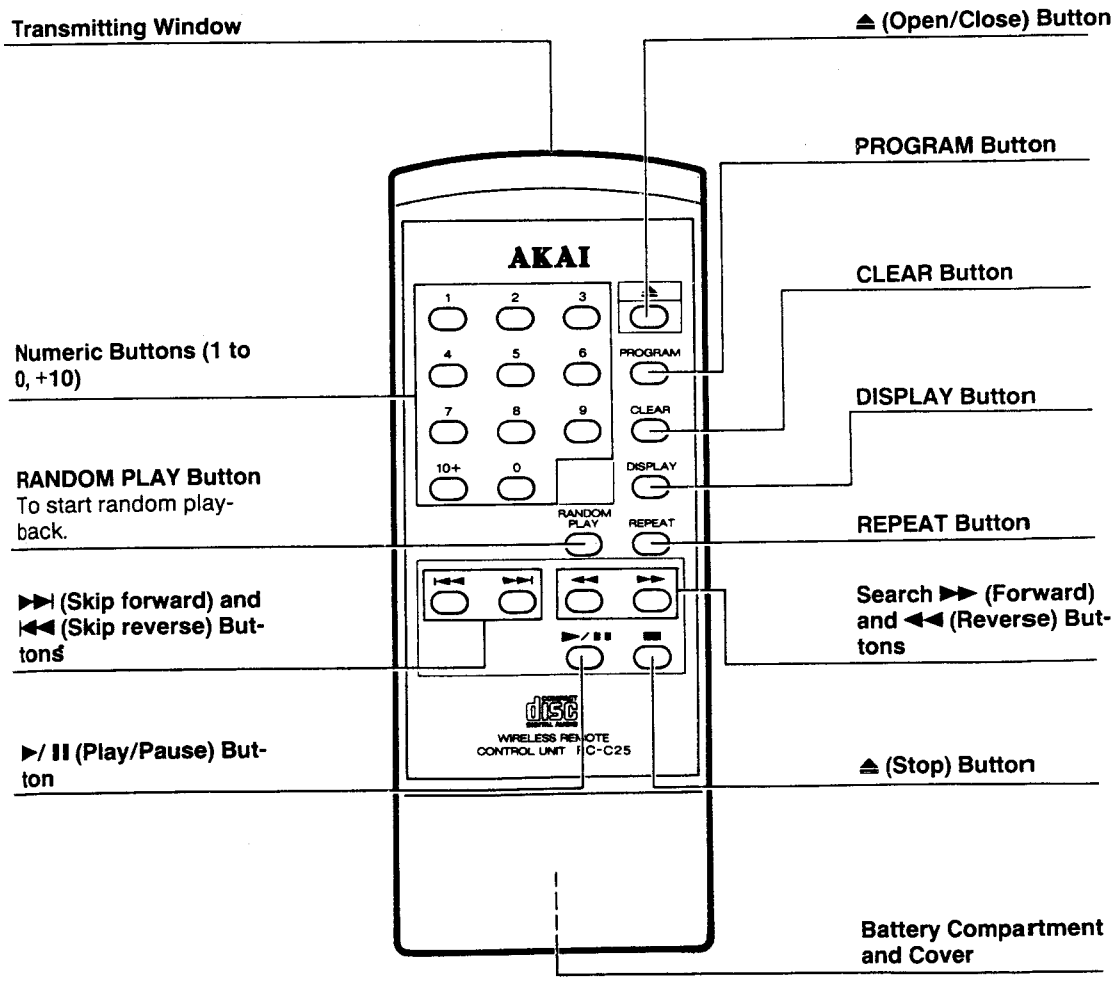

REPEAT Indicator
Indicates that repeat playback is engaged.
PROG (PROGram) Indicator
Indicates that random program playback is engaged.
REPEAT
PROG
1 2 3 4 5 6
7 8 9 10 11 12
13 14 15 16 17 18
Music Calendar Display (1 to 18)
Indicates the number of tracks contained in the loaded compact disc. Up to 18 tracks can be displayed.
Digital Display
Shows the total remaining time, elapsed playback time or track and index number being play back.

1-3. REAR PANEL


LINE OUT jacks (for audio signal output)
DIGITAL OUT jack (for digital audio signal output)
Voltage selector switch (U ONLY)
Power cord and plug

1-4. REMOTE CONTROL (RC-25)

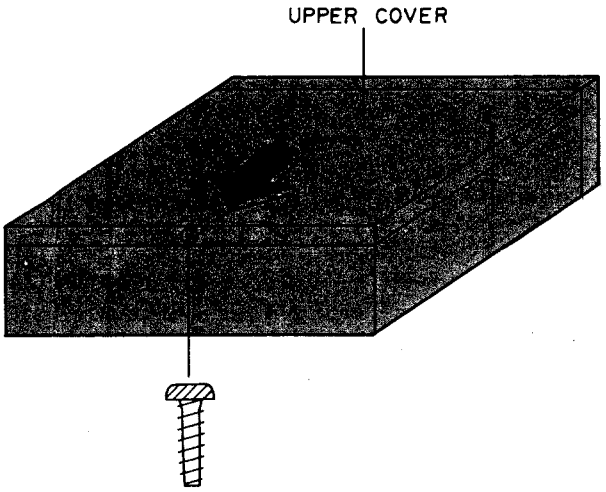
The operation buttons on the remote control unit are the same as those on the CD player and can be used to conveniently control all the CD player's functions except power on/off and headphone volume.



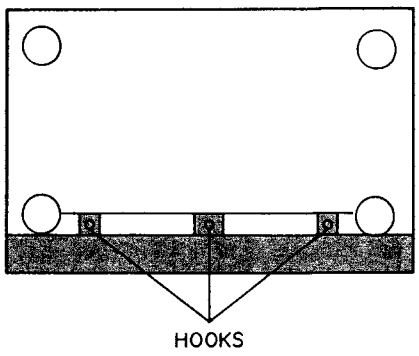
II. DISASSEMBLY

In case of trouble, etc, necessitating dismantling, please dismantle in the order shown in the illustrations.
Reassemble in reverse order.

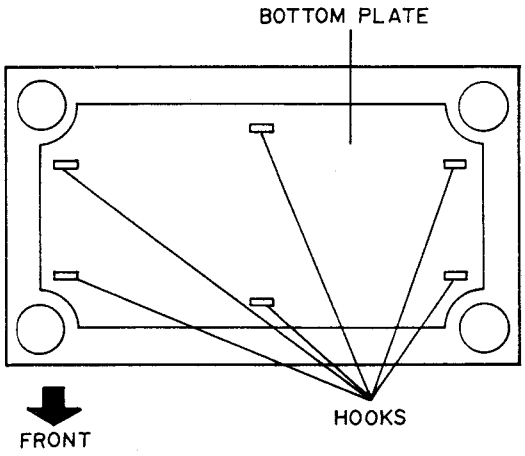
1. Removal of UPPER COVER



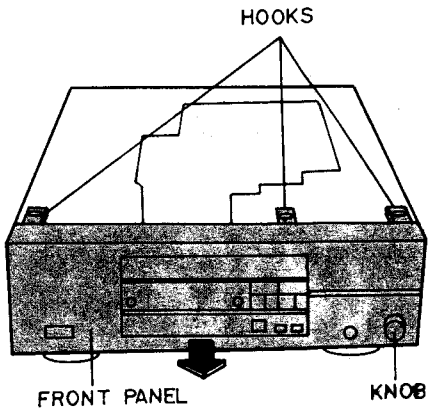
3. Removal of FRONT PANEL



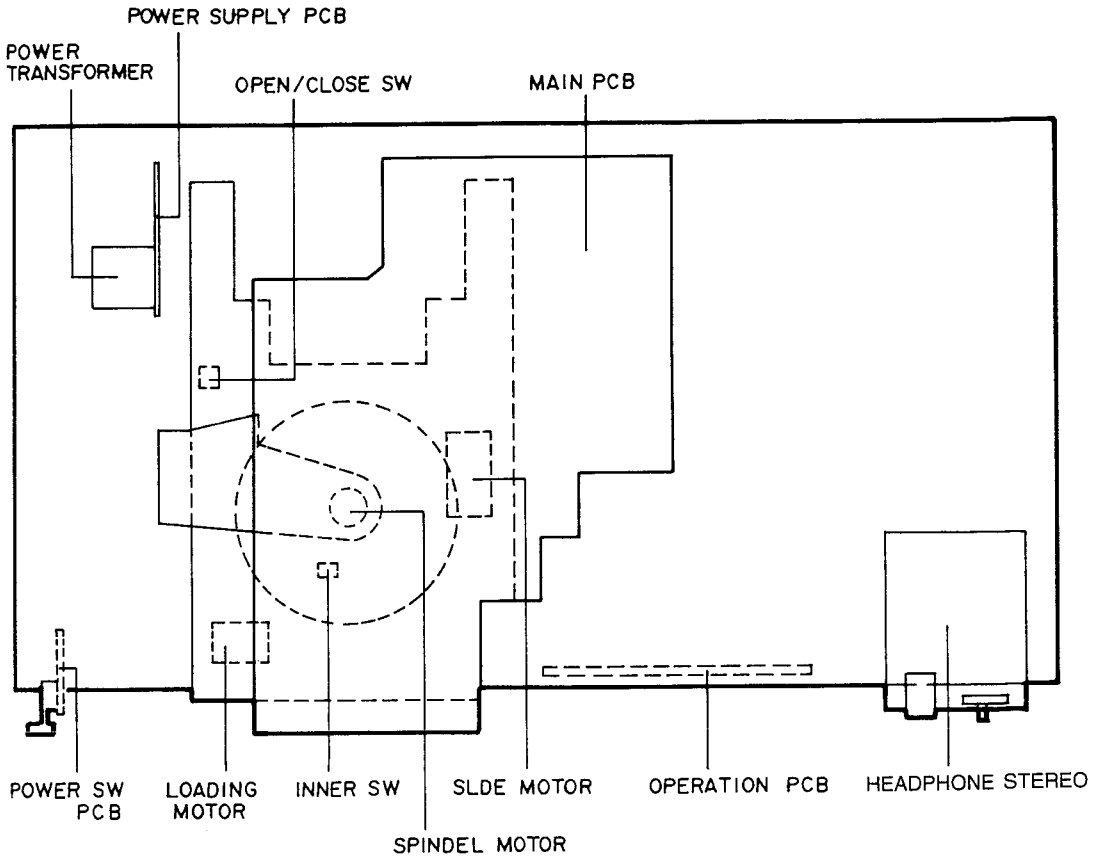
2. Removal of BOTTOM PLATE



4.



III. PRINCIPAL PARTS LOCATION



IV. REPLACEMENT OF PRINCIPAL COMPONENT

* Refer to "II. DISASSEMBLY" for removal of UPPER COVER,BOTTOM PLATE and FRONT PANEL.

4-1. DISASSEBLE/REASSEMBLE PROCEDURE OF COMPONENT

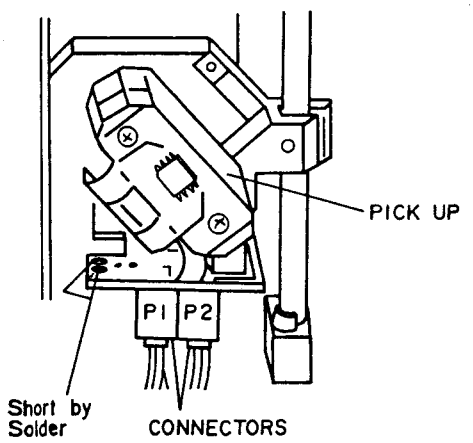
* When replacement of mechanical part is neccessary, replace the part as following procedure.

STEP 1	STEP 2	STEP 3	STEP 4

MAIN & OPERATION PCB → DISC CLAMPER → LOADING MECHA BLK → LOADING MOTOR
MAIN & OPERATION PCB → DISC DRAWER → PICK UP MECHA BLK → PICK UP BLK
PICK UP MECHA BLK → SPINDLE MOTOR
PICK UP MECHA BLK → SLED MOTOR

4-2. PRECAUTION, WHEN REPLACING THE PICK UP BLOCK

When connecting or disconnecting the connectors P1 and P2 on the MAIN PCB or PCB on the PICK UP BLK, the circuit of the PCB on the PICK UP BLK has to be shorted by solder as shown Fig.4-1.
After connecting the connectors P1 and P2, remove the solder from the circuit.



* View from bottom side.

Fig.4-1

4-3. REMOVAL OF MAIN & OPERATION PC BOARDS

1) Remove screw Ⓐ and remove solder as shown Fig. 4-2
2) Remove MAIN PCB and OPERATION PCB while releasing the HOOKS.

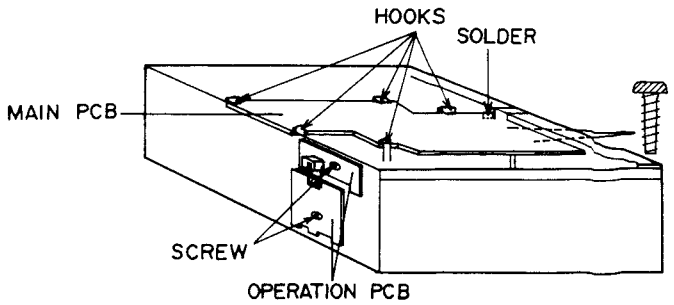


Fig. 4-2

4-4. REMOVAL OF DISC CLAMPER

NOTE: Keep your safety from hazardous invisible laser radiation. Make sure that the POWER switch is "OFF", when removing the DISC CLAMPER.

1) Remove DISC CLAMPER while releasing the HOOKs as shown Fig.4-3.
2) When reassembling the DISC CLAMPER, set the PIN Ⓐ of the DISC CLAMPER into the HOLE Ⓑ on the LOADING MOTOR BLK.

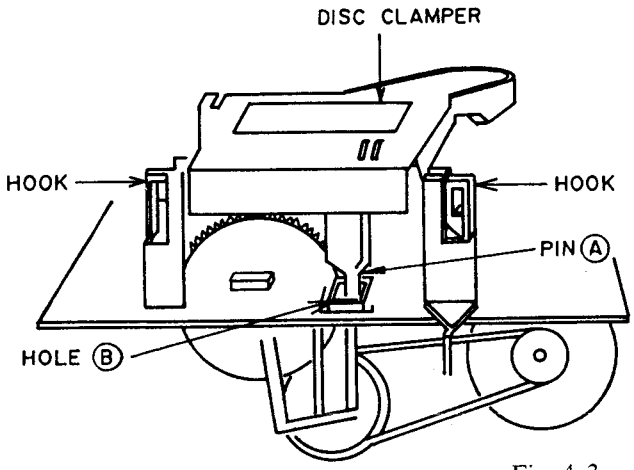


Fig. 4-3

4-5. REMOVAL OF DISC DRAWER

1) Push the end of rail on the DISC DRAWER and set the DISC DRAWER to open position.
2) Turn the LEVER Ⓒ while releasing the STOPPER Ⓓ as shown Fig.4-5, and pull out the DISC DRAWER.
3) Reassemble in reverse order.

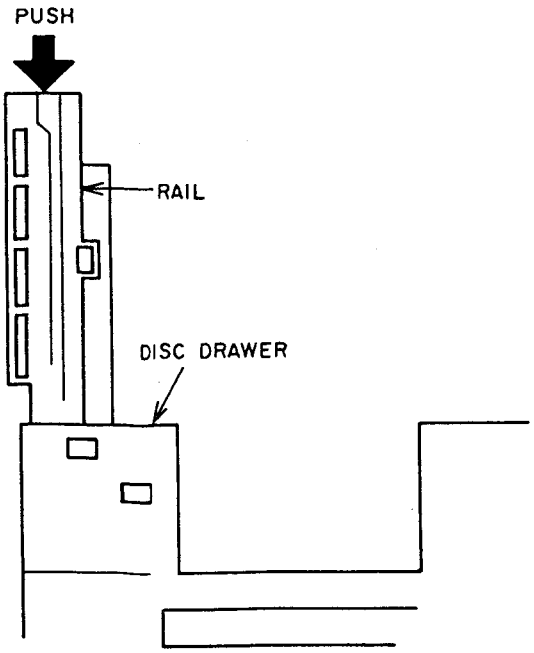


Fig. 4-4

4-6. REMOVAL OF LOADING MECHA BLOCK

1) Turn the LEVERS Ⓒ while releasing the STOPPERS Ⓓ as shown Fig.4-6.
2) Pull out the LOADING MECHA BLK.
3) Reassemble in reverse order.

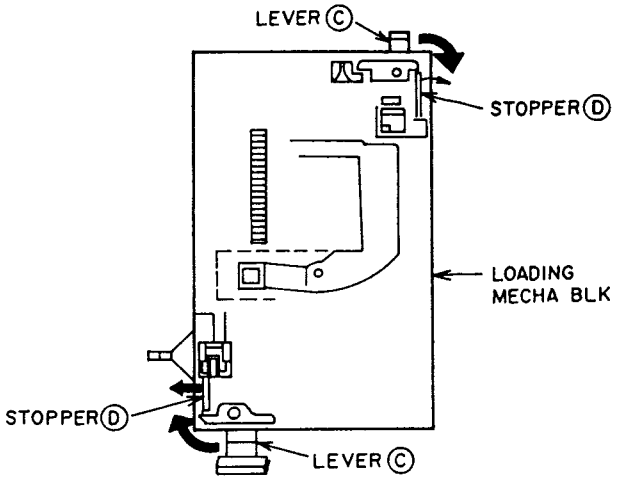


Fig.4-6

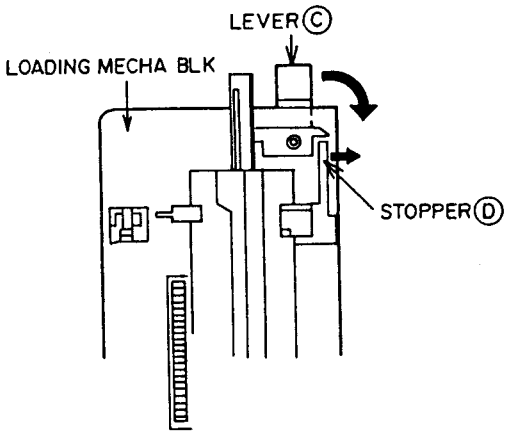


Fig. 4-5

4-7. REMOVAL OF PICK UP MECHA BLK

1) Turn the LEVERS Ⓔ while releasing the STOPERS Ⓕ as shown Fig.4-7.
2) Pull out the PICK UP MECHA BLK.
3) Reassemble in reverse order.

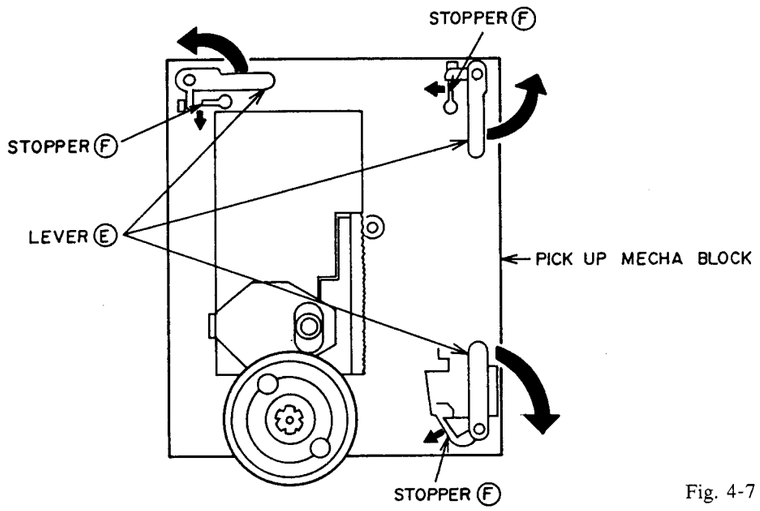


Fig. 4-7

4-8. REMOVAL OF LOADING MOTOR

1) Remove the LOADING BELT from MOTOR PULLY.
2) Remove two SCREWS Ⓖ and remove LOADING MOTOR.
3) Reassemble in reverse order.

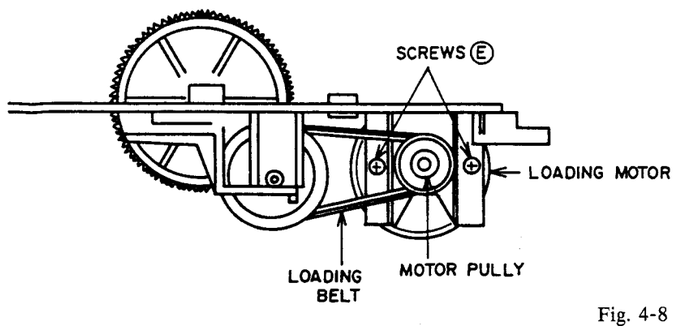


Fig. 4-8

4-9. REMOVAL OF PICK UP BLOCK

1) Push PICK UP SLED SHAFT while releasing the STOPPER Ⓗ as shown Fig.4-9 and pull out the PICK UP SLED SHAFT, then remove PICK UP BLK.
2) Reassemble in reverse order.

4-10. REMOVAL OF SLED MOTOR

1) Turn the SLED MOTOR HOLD LEVER while releasing the STOPPER Ⓘ (Refer to Fig.4-9) and remove SLED MOTOR.
2) Reassemble in reverse order.

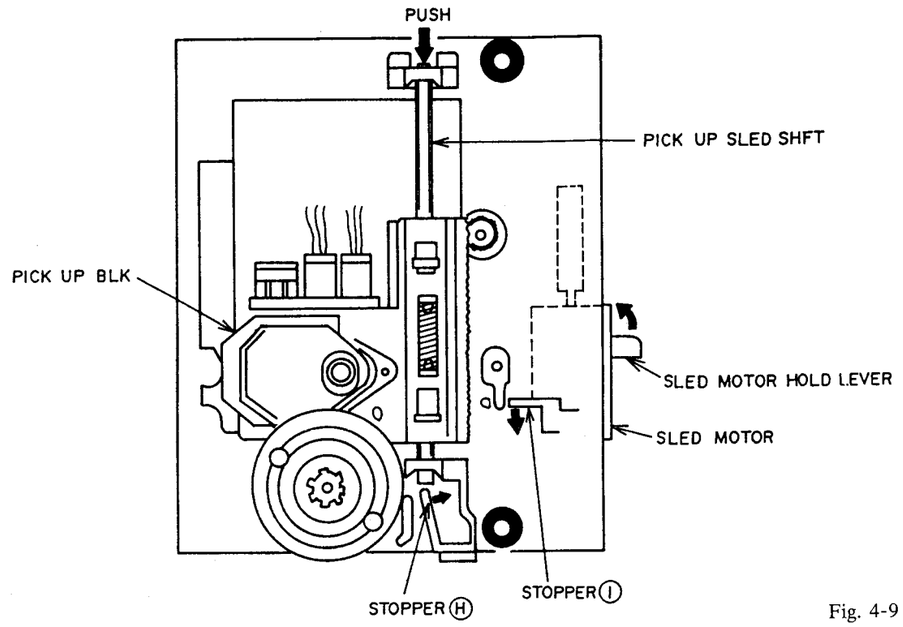


Fig. 4-9

4-11. REMOVAL OF SPINDLE MOTOR

1) Remove two fixation SCREWS Ⓙ of the SPINDLE MOTOR through the hole on the TURN TABLE as shown Fig.4-10.
2) Reassemble in reverse order.

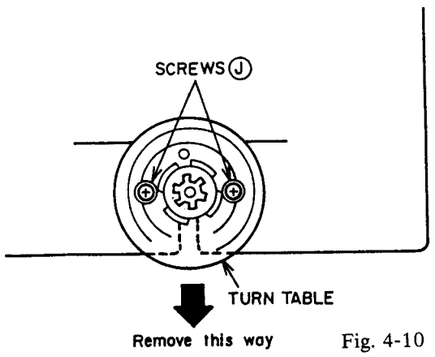


Fig. 4-10

V. ELECTRICAL ADJUSTMENT

[About the TEST mode]

* This TEST mode use for the adjustment or check.
* How to set into the TEST mode.
  Turn the power on, while pressing the ◁◁ , ▷▷ and DISPLAY buttons on the front panel.
* How to change the TEST mode number.
  Press the ⏏ button, then advance a TEST mode number, when TEST mode number is returned to intial TEST mode number, press ▭ button.

STEP	ADJUSTMENT ITEM
1.	TEST DISC
2.	MODE or TEST mode
3.	TEST POINT and ADJ. part
4.	RESULT & REMARKS

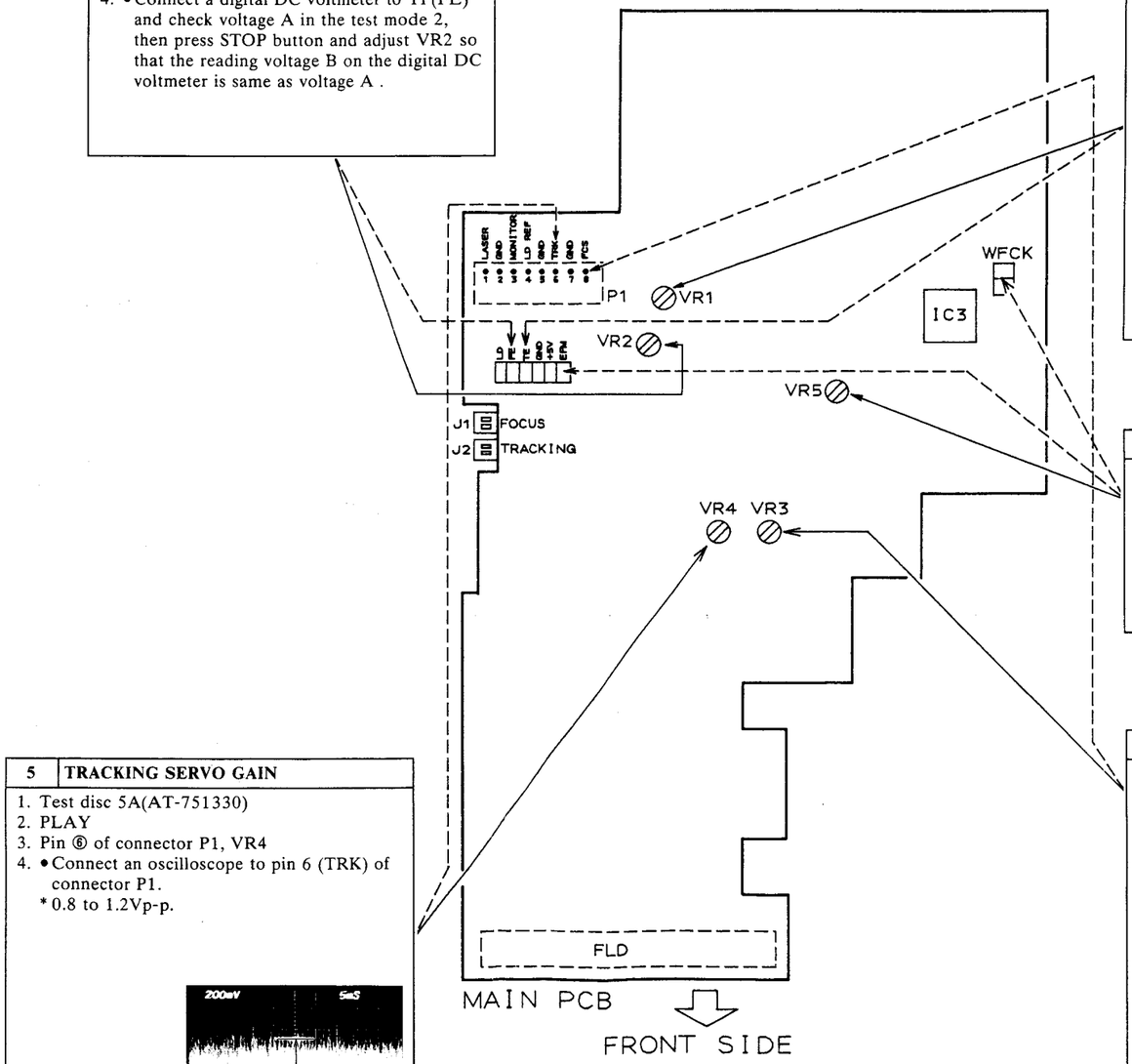
Test Point — ADJ. Part

* TEST mode condition and DISPLAY

TE.SE (1)	• Indicated that unit is set into the TEST mode.
00.00 (12)	• Indicated that the end of FOCUS SEARCH.
00.00 (123)	• Set into the CLV-S mode. Tracking servo gain is set to the same as "JUMP" mode.
00.00 (1234)	• Tracking servo is on.
00.00 (12345)	• Unit into the normal play mode except anti shock is "OFF".
00.00 (123456)	• Anti shock is "ON" and unit is into nomal condition. • If press the ⏏ button again, unit will enter the normal "power ON" mode.

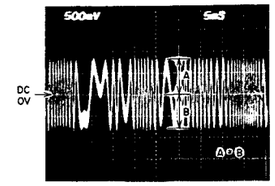
4 FOCUS OFF-SET

1. Test disc 5A(AT-751330)
2. Test mode 2 and 1
3. TP(FE) , VR2
4. • Connect a digital DC voltmeter to TP(FE) and check voltage A in the test mode 2, then press STOP button and adjust VR2 so that the reading voltage B on the digital DC voltmeter is same as voltage A .



2 E-F BALANCE

1. Test disc 5A(AT-751330)
2. Test mode 3
3. TP(TE), VR1
4. • Connect an oscilloscope to TP(TE)
   * A=B

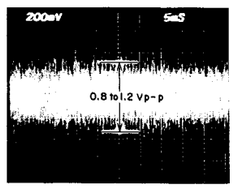


1 VCO

1. —
2. 10 seconds after power is on.
3. TP(WFCK) , VR5
4. • Connect a frequency counter to TP(WFCK).
   • Connect TP (EFM) to GND by jumper wire.
   * 7350 ± 10Hz

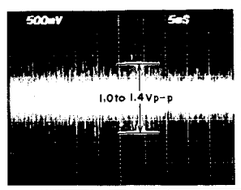
5 TRACKING SERVO GAIN

1. Test disc 5A(AT-751330)
2. PLAY
3. Pin ⑥ of connector P1, VR4
4. • Connect an oscilloscope to pin 6 (TRK) of connector P1.
   * 0.8 to 1.2Vp-p.



3 FOCUS SERVO GAIN

1. Test disc 5A(AT-751330)
2. PLAY
3. Pin ⑧ (FCS) of connector P1, VR3
4. • Connect an oscilloscope to pin ⑧ (FCS) of connector P1.
   * 1.0 to 1.4Vp-p



VII. PARTS LIST

ATTENTION

1. **When placing an order for parts, be sure to list Part No., Model No. and the description of eachpart. Otherwise, the non-delivery of the part or the delivery of a wrong part may result.**
2. **Please make sure that Part No. is correct when ordering. If not, a part different from the one you ordered may be delivered.**
3. **Since the parts shown in Parts List of Preliminary Service Manual may have been the subject of changes, please use this Parts List for all future reference.**

HOW TO USE THIS PARTS LIST

1. This Parts List lists those parts which are considered necessary for repairs. Other common parts, such as resistors and capacitors, are listed in the "Common List for Service Parts" from which these parts should be selected and stocked.
2. The Recommended Spare Parts List shows those parts in the Parts List which are considered particularly important for service.
3. Parts not shown in the Parts List and "Common List for Service Parts" will not in principle be supplied.
4. How to read the Parts List.

a) Mechanism Block

2. HEAD BASE BLOCK

REF. NO.	PART NO.	DESCRIPTION
1	BH-T2023A320A	HEAD BASE BLOCK
2	HP-H2206A010A	HEAD R/P PR4-8FU C
3	ZS-477876	PAN20×03STL CMT
4	ZS-536488	BID20×08STL CMT
5	ZG-402895	SP CS ANGLE ADJUST

SP (Service Parts) Classification

This number corresponds with the individual parts index number in that figure.

b) PC Board

6. MAIN PC BOARD

REF. NO.	PART NO.	DESCRIPTION
IC1	EI-324536	IC HD14049BP
IC2	EI-336801	IC MB8841-564M
C1A	EC-338399	C MMY V 223M 250AC [U,E,B,S]
C1B	EC-350949	C MMY V 223M 250DC [J]
C1C	EC-338397	C MMY V 223M 125AC [C,A]
X1	EI-318384	OSC X'TAL NC-18C

Symbols for primary destination

[A] : AAL (U.S.A) [S] : SAA (Australia)
[B] : BEAB (England) [U] : U/T (Universa
[C] : CSA (Canada) Area)
[E] : CEE (Europe) [V] : VDE (W. Germany)
[J] : JPN (Janan) [Y] : Custom Version

SP (Service Parts) Classification

These reference symbols correspond with component symbols in the Schematic Diagrams.

The available PC Board Blocks are listed separately.

5. When Part No. is known, Parts Index at end of Parts List can be used to locate where that part is shown in Parts List by its Reference No.listed at right of Part No.

WARNING

⚠(*) INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURE'S RECOMMENDED PARTS.

AVERTISSEMENT

⚠(*) IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉDE L'APPAREIL, NE REMPLACER QUE DES PIÉCES RECOMMANDEES PAR LÉ FABRICANT.

1. RECOMMENDED SPARE PARTS

We suggest you to stock the following Recommended Spare Part items listed below since they can cover most of the routine service.

Ref. No.	Part No.	Description
1	BM-730687T	MOTOR RD-050Y-10240
2	BM-730688T	MOTOR RF-310T-11400
3	BM-730695T	MOTOR RF-500TB-12560
4	BO-368598	PICK UP KSS-150A
5	*BT-730710T	TRANS POW EI-48K (B,S) [B,S]
6	*BT-730709T	TRANS POW EI-48K (E,V) [E]
7	*BT-730718T	TRANS POW EI-48K (U) [U]
8	ED-307572	D SILICON H 1SS131
9	*ED-389840J	D SILICON 1SR139-100HS F10
10	ED-200967	D ZENER H RD5.6E B2
11	ED-317690	D ZENER H RD7.5E B1
12	ED-300269	D ZENER H RD9.1E B
13	ED-384523J	D ZENER H 05AZ30-Z
14	*EF-358974	FUSE BET T 250V 630MA [E,B,S]
15	EI-727276T	DETECTOR QH3021H0
16	EI-330352	IC BA6109
17	EI-390112J	IC CXA1081S
18	EI-390120J	IC CXA1082BS
19	EI-388090J	IC CXD1125Q
20	EI-390121J	IC HD614081SA48 P2054-1
21	EI-382251J	IC LC3517BS-15
22	EI-307644	IC NJM4556D
23	EI-723861J	IC NJM4558DD
24	EI-390113J	IC PD0034
25	EI-360037J1	IC TC74HC00AP
26	EI-360039J1	IC TC74HC08AP
27	EI-390129J	IC TDA1543A
28	EI-371572	IC UPC7805H
29	EI-371573	IC UPC7905H
30	EI-390149J	OSC CE CST4.23MGW 4.230MHZ
31	EI-374176	OSC X'TAL AT-51 16.9344MHZ
32	EM-730699T	IND FL FV365
33	ES-730694T	SW LEAF LSC-1223-31
34	ES-390127J	SW PUSH SPPB12
35	*ES-390128J	SW PUSH SPUP12018A 02-02N
36	*ES-349464	SW SLIDE 00120319 01-2 [U]
37	ES-349474	SW TACT SKHHAM004A [OPEN/CLOSE]
38	ET-352726	TR 2SA1392 T,U
39	ET-336735	TR 2SA733A P,K
40	ET-356817	TR 2SB891 Q,R
41	ET-730702T	TR 2SB909MR
42	ET-338410	TR 2SC2878 A,B
43	ET-378524J	TR 2SC3383 S,T,U
44	ET-398788	TR 2SC945L R
45	ET-354083	TR 2SD1189 Q,R
46	ET-730698T	TR 2SD1225MR
47	EV-731160T	VR 20KAX2 RK16K12B0048
48	MB-730693T	BELT

2. CD MECHANISM

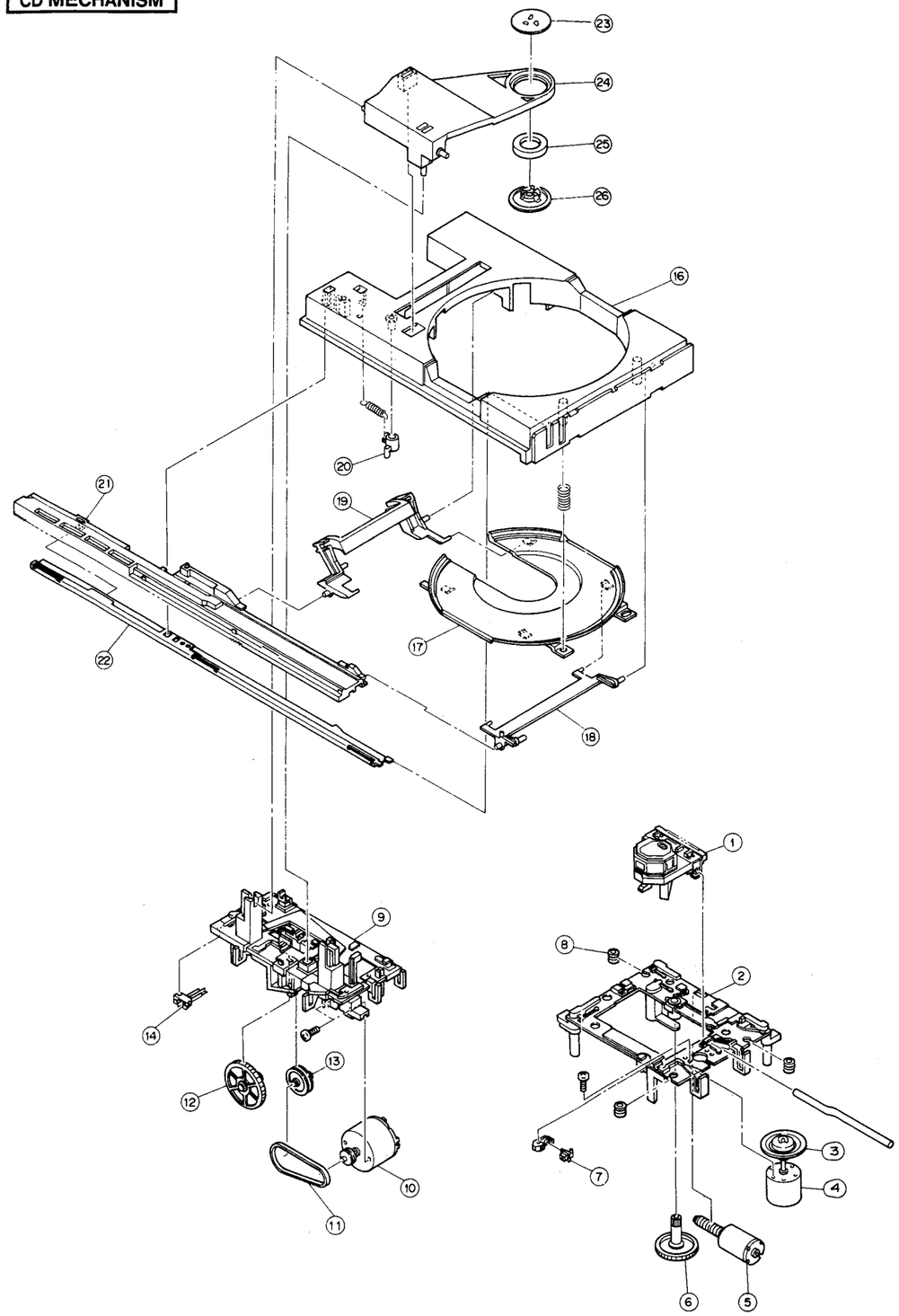
Ref. No.	Part No.	Description
1	BO-368598	PICK UP KSS-150A
2	MA-731007T	CHASSIS OUTSERT
3	MZ-730685T	TURNTABLE OUTSERT
4	BM-730688T	MOTOR RF-310T-11400
5	BM-730687T	MOTOR RD-050Y-10240
6	MZ-731011T	GEAR WHEEL
7	ES-390127J	SW PUSH SPPB12
8	MB-730686T	RUBBER CUSHION
9	MA-731008T	LOADING CHASSIS OUTSERT
10	BM-730695T	MOTOR RF-500TB-12560
11	MB-730693T	BELT
12	MZ-730691T	GEAR LOADING
13	MZ-730692T	GEAR LOADING PULLEY
14	ES-730694T	SW LEAF LSC-1223-31
16	SC-731017T	DISC TRAY
17	MZ-731016T	DISC HOLDER
18	ML-730678T	DISC HOLDER (F)
19	ML-730679T	DISC HOLDER (R)
20	ML-730680T	LOCK LEVER
21	MZ-731019T	CAM LOADER
22	MZ-731018T	DISC TRAY GUIDE
23	MZ-731012T	CHUCKING PLATE
24	MZ-731015T	CLAMPER HOLDER
25	MZ-731014T	MAGNET 30X18X5
26	MZ-731013T	CLAMPING PLATE

NOTE:
Parts will not be supplied if they are not listed in the parts list, even if they appear on the assembling illustrations with reference No.

3. P.C BOARD BLOCK

Ref. No.	Part No.	Description
1	BA-731000T	MAIN PCB ASSY CD-25

CD MECHANISM



4. MAIN P.C BOARD

Ref. No.	Part No.	Description
D1	*ED-389840J	D SILICON 1SR139-100HS F10
D2	*ED-389840J	D SILICON 1SR139-100HS F10
D3	*ED-389840J	D SILICON 1SR139-100HS F10
D4	*ED-389840J	D SILICON 1SR139-100HS F10
D5	*ED-389840J	D SILICON 1SR139-100HS F10
D6	*ED-389840J	D SILICON 1SR139-100HS F10
D7	ED-389840J	D SILICON 1SR139-100HS F10
D8	ED-389840J	D SILICON 1SR139-100HS F10
D9	ED-389840J	D SILICON 1SR139-100HS F10
D10	ED-389840J	D SILICON 1SR139-100HS F10
D11	ED-389840J	D SILICON 1SR139-100HS F10
D12	ED-384523J	D ZENER H 05AZ30-Z
D13	ED-200967	D ZENER H RD5.6E B2
D14	ED-317690	D ZENER H RD7.5E B1
D15	ED-307572	D SILICON H 1SS131
D16	ED-300269	D ZENER H RD9.1E B
D18	ED-307572	D SILICON H 1SS131
D19	ED-307572	D SILICON H 1SS131
D20	ED-307572	D SILICON H 1SS131
D21	ED-307572	D SILICON H 1SS131
D22	ED-307572	D SILICON H 1SS131
D23	ED-307572	D SILICON H 1SS131
D24	ED-307572	D SILICON H 1SS131
D25	ED-307572	D SILICON H 1SS131
D26	ED-307572	D SILICON H 1SS131
D27	ED-307572	D SILICON H 1SS131
D28	ED-307572	D SILICON H 1SS131
D29	ED-307572	D SILICON H 1SS131
D30	ED-200967	D ZENER H RD5.6E B2
IC1	EI-390112J	IC CXA1081S
IC2	EI-390120J	IC CXA1082BS
IC3	EI-368610	IC CXD1135Q
IC4	EI-382251J	IC LC3517BS-15
IC5	EI-390121J	IC HD614081SA48 P2054-1
IC7	EI-330352	IC BA6109
IC8	EI-390129J	IC TDA1543A
IC9	EI-390113J	IC PD0034
IC10	EI-723861J	IC NJM4558DD
IC11	EI-723861J	IC NJM4558DD
IC12	EI-371572	IC UPC7805H
IC13	EI-371573	IC UPC7905H
IC14	EI-360039J1	IC TC74HC08AP
IC15	EI-360037J1	IC TC74HC00AP
IN1	EM-730699T	IND FL FV365
J3	EJ-730700T	PIN J 2P (RCA RED)
J4	EJ-390116J	PIN J T6312-AAAA 1P
T1	EO-731158T	PULSE T. TWS-358-651
TR1	ET-336735	TR 2SA733A P,K
TR2	ET-354083	TR 2SD1189 Q,R
TR3	ET-730702T	TR 2SB909MR
TR4	ET-354083	TR 2SD1189 Q,R
TR5	ET-356817	TR 2SB891 Q,R
TR6	ET-730698T	TR 2SD1225MR
TR7	ET-730702T	TR 2SB909MR
TR8	ET-398788	TR 2SC945L R
TR9	ET-354083	TR 2SD1189 Q,R
TR10	ET-356817	TR 2SB891 Q,R
TR17	ET-398788	TR 2SC945L R
TR18	ET-336735	TR 2SA733A P,K
TR19	ET-398788	TR 2SC945L R
TR20	ET-336735	TR 2SA733A P,K
TR21	ET-336735	TR 2SA733A P,K
TR22	ET-398788	TR 2SC945L R
TR23	ET-398788	TR 2SC945L R
TR24	ET-336735	TR 2SA733A P,K
TR26	ET-398788	TR 2SC945L R
TR27	ET-378524J	TR 2SC3383 S,T,U
TR28	ET-352726	TR 2SA1392 T,U
VR1	EV-336849	R S-FIX H KVSF807U 0.10W 203 [E-F BALANCE]
VR2	EV-336849	R S-FIX H KVSF807U 0.10W 203 [FOCUS OFF SET]
VR3	EV-336849	R S-FIX H KVSF807U 0.10W 203 [FOCUS GAIN]
VR4	EV-336849	R S-FIX H KVSF807U 0.10W 203 [TRACKING GAIN]
VR5	EV-341232	R S-FIX H TM8KV2-1S 0.50W102 [PLL]
X1	EI-374176	OSC X'TAL AT-51 16.9344MHZ
X2	EI-390149J	OSC CE CST4.23MGW 4.230MHZ

5. POWER P.C BOARD

Ref. No.	Part No.	Description
C201A	*EC-338496	C CE V DE7 FZ 472P 400AC [E,B,S]
C201B	*EC-338411	C CE V DE7 FZ 103P 400AC [U]
C202A	*EC-338496	C CE V DE7 FZ 472P 400AC [E,B,S]
C202B	*EC-338411	C CE V DE7 FZ 103P 400AC [U]
F201	*EF-358974	FUSE BET T 250V 630MA [E,B,S]
F202	*EF-358974	FUSE BET T 250V 630MA [E,B,S]
LF201	*EH-730701T	LINE FILTER LF-2217
VS201	*ES-349464	SW SLIDE 00120319 01-2 [U]

6. CONTROL P.C BOARD

Ref. No.	Part No.	Description
RM1	EI-727276T	DETECTOR QH3021H0
TS1	ES-349474	SW TACT SKHHAM004A [OPEN/CLOSE]
TS2	ES-349474	SW TACT SKHHAM004A [PLAY]
TS3	ES-349474	SW TACT SKHHAM004A [STOP]
TS4	ES-349474	SW TACT SKHHAM004A [DISPLAY]
TS5	ES-349474	SW TACT SKHHAM004A [SKIP FWD]
TS6	ES-349474	SW TACT SKHHAM004A [SKIP REV]
TS7	ES-349474	SW TACT SKHHAM004A [SERCH FWD]
TS8	ES-349474	SW TACT SKHHAM004A [SERCH REV]
TS9	ES-349474	SW TACT SKHHAM004A [RANDOM PLAY]

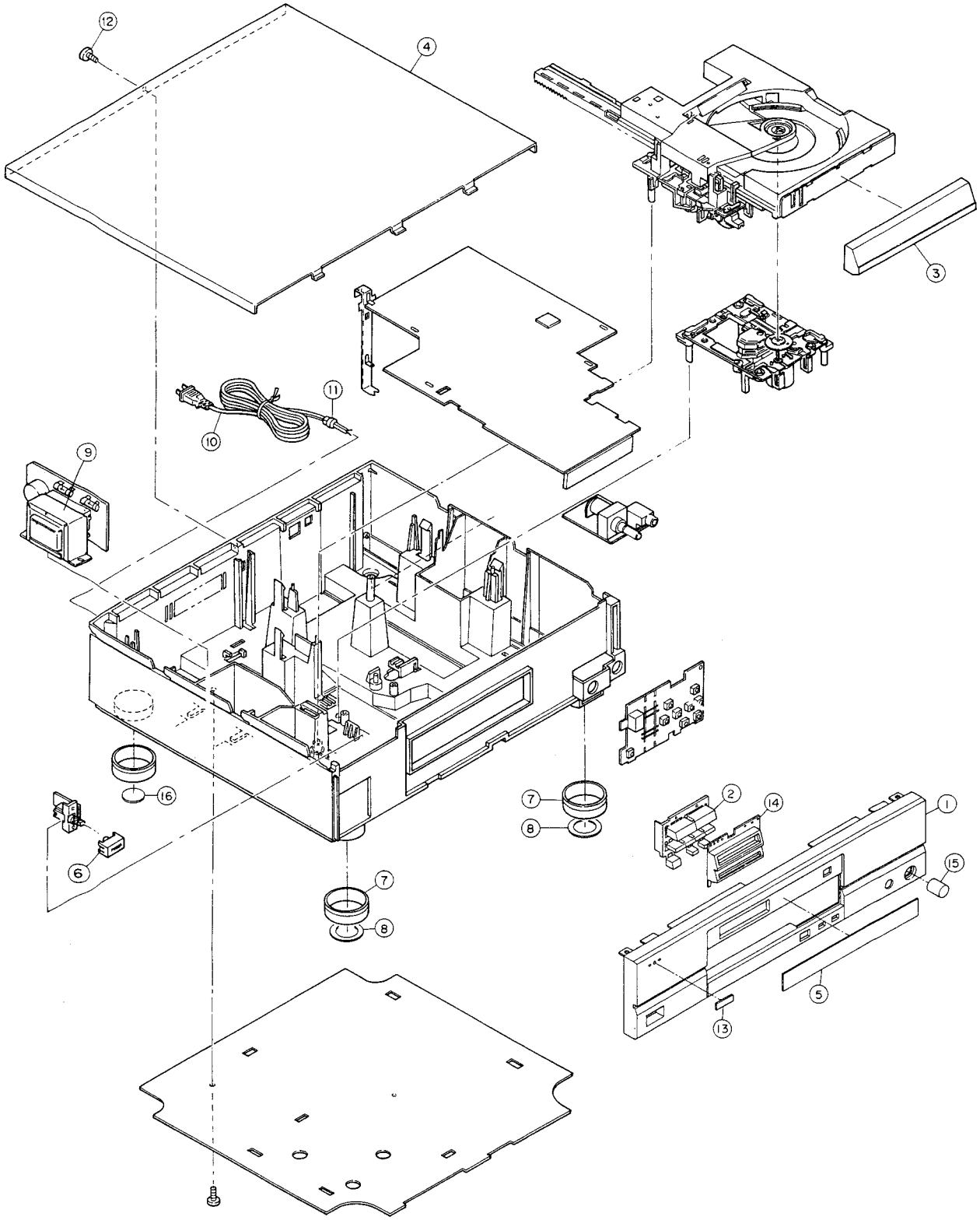
7. POWER SW P.C BPARD

Ref. No.	Part No.	Description
SW1	*ES-390128J	SW PUSH SPUP12018A 02-02N

8. PHONE AMP P.C BOARD

Ref. No.	Part No.	Description
IC100	EI-307644	IC NJM4556D
J100	EJ-731159T	PH JACK JY-6304-01-030
TR101	ET-338410	TR 2SC2878 A,B
VR100	EV-731160T	VR 20KAX2 RK16K12B0048

FINAL ASSEMBLY BLOCK



9. FINAL ASSEMBLY

Ref. No.	Part No.	Description
1	SP-731151T	FRONT ESCUTCHEON CD-25
2	SK-731146T	KNOB FUNCTION
3	SP-731152T	PANEL TRAY CD-25
4	SC-731147T	TOP COVER CD-25
5	SE-731148T	PLATE DISPLAY
6	SK-373236B	KNOB POWER-B
7	SA-731154T	RING FOOT
8	SA-731156T	SHEET FOOT (F)
9A	*BT-730709T	TRANS POW EI-48K (E,V) [E]
9B	*BT-730710T	TRANS POW EI-48K (B,S) [B,S]
9C	*BT-730718T	TRANS POW EI-48K (U) [U]
10A	*EW-336923	AC CORD 2C KP-419C,LTCE-2F EV [E]
10B	*EW-727063T	AC CORD BS6500 (B) [B]
10C	*EW-347898	AC CORD 2 CORES VM-0436,LCFL S [S]
10D	*EW-731025T	AC CORD UL 6.5F BLK2 SPT2 [U]
11	*EZ-730703T	STRAIN RELIEF SR-4K-6
12	ZS-365702	PLX BID30X10STL BNI
13	SM-365756C	NAME PLATE AKAI(2)
14	SK-731149T	KNOB ESCUTCHEON
15	SK-731150T	KNOB VR
16	SA-731155T	SHEET FOOT (R)

NOTE:
Parts will not be supplied if they are not listed in the parts list, even if they appear on the assembling illustrations with reference No.

10. ACCESSARY

Ref. No.	Part No.	Description
1	AX-731157T	REMOTE TRANSMITTER ASSY RC-25
2	EW-387930J	CORD R-237P P-P 2P

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Part No.	Ref. No.	Part No.	Ref. No.	Part No.	Ref. No.	Part No.	Ref. No.
AX-731157T	10-1	EI-390113J	4-IC9	EW-731025T	9-10D		
BA-731000T	3-1	EI-390120J	1-18	EZ-730703T	9-11		
BM-730687T	1-1	EI-390120J	4-IC2	MA-731007T	2-2		
BM-730687T	2-5	EI-390121J	1-20	MA-731008T	2-9		
BM-730688T	1-2	EI-390121J	4-IC5	MB-730686T	2-8		
BM-730688T	2-4	EI-390129J	1-27	MB-730693T	1-48		
BM-730695T	1-3	EI-390129J	4-IC8	MB-730693T	2-11		
BM-730695T	2-10	EI-390149J	1-30	ML-730678T	2-18		
BO-368598	1-4	EI-390149J	4-X2	ML-730679T	2-19		
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BT-730710T	9-9B	EI-727276T	6-RM1	MZ-731011T	2-6		
BT-730718T	1-7	EJ-390116J	4-J4	MZ-731012T	2-23		
BT-730718T	9-9C	EJ-730700T	4-J3	MZ-731013T	2-26		
EC-338411	5-C201B	EJ-731159T	8-J100	MZ-731014T	2-25		
EC-338411	5-C202B	EM-730699T	1-32	MZ-731015T	2-24		
EC-338496	5-C201A	EM-730699T	4-IN1	MZ-731016T	2-17		
EC-338496	5-C202A	EO-731158T	4-T1	MZ-731018T	2-22		
ED-200967	1-10	ES-349464	1-36	MZ-731019T	2-21		
ED-200967	4-D13	ES-349464	5-VS201	SA-731154T	9-7		
ED-200967	4-D30	ES-349474	1-37	SA-731155T	9-16		
ED-300269	1-12	ES-349474	6-TS1	SA-731156T	9-8		
ED-300269	4-D16	ES-349474	6-TS2	SC-731017T	2-16		
ED-307572	1-8	ES-349474	6-TS3	SC-731147T	9-4		
ED-307572	4-D15	ES-349474	6-TS4	SE-731148T	9-5		
ED-307572	4-D18	ES-349474	6-TS5	SK-373236B	9-6		
ED-307572	4-D19	ES-349474	6-TS6	SK-731146T	9-2		
ED-307572	4-D20	ES-349474	6-TS7	SK-731149T	9-14		
ED-307572	4-D21	ES-349474	6-TS8	SK-731150T	9-15		
ED-307572	4-D22	ES-349474	6-TS9	SM-365756C	9-13		
ED-307572	4-D23	ES-390127J	1-34	SP-731151T	9-1		
ED-307572	4-D24	ES-390127J	2-7	SP-731152T	9-3		
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ED-307572	4-D26	ES-390128J	7-SW1				
ED-307572	4-D27	ES-730694T	1-33				
ED-307572	4-D28	ES-730694T	2-14				
ED-307572	4-D29	ET-336735	1-39				
ED-317690	1-11	ET-336735	4-TR1				
ED-317690	4-D14	ET-336735	4-TR18				
ED-384523J	1-13	ET-336735	4-TR20				
ED-384523J	4-D12	ET-336735	4-TR21				
ED-389840J	1-9	ET-336735	4-TR24				
ED-389840J	4-D1	ET-338410	1-42				
ED-389840J	4-D2	ET-338410	8-TR101				
ED-389840J	4-D3	ET-352726	1-38				
ED-389840J	4-D4	ET-352726	4-TR28				
ED-389840J	4-D5	ET-354083	1-45				
ED-389840J	4-D6	ET-354083	4-TR2				
ED-389840J	4-D7	ET-354083	4-TR4				
ED-389840J	4-D8	ET-354083	4-TR9				
ED-389840J	4-D9	ET-356817	1-40				
ED-389840J	4-D10	ET-356817	4-TR5				
ED-389840J	4-D11	ET-356817	4-TR10				
EF-358974	1-14	ET-378524J	1-43				
EF-358974	5-F201	ET-378524J	4-TR27				
EF-358974	5-F202	ET-398788	1-44				
EH-730701T	5-LF201	ET-398788	4-TR8				
EI-307644	1-22	ET-398788	4-TR17				
EI-307644	8-IC100	ET-398788	4-TR19				
EI-330352	1-16	ET-398788	4-TR22				
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EI-371573	1-29	EV-336849	4-VR1				
EI-371573	4-IC13	EV-336849	4-VR2				
EI-374176	1-31	EV-336849	4-VR3				
EI-374176	4-X1	EV-336849	4-VR4				
EI-382251J	1-21	EV-341232	4-VR5				
EI-382251J	4-IC4	EV-731160T	1-47				
EI-388090J	1-19	EV-731160T	8-VR100				
EI-388090J	4-IC3	EW-336923	9-10A				
EI-390112J	1-17	EW-347898	9-10C				
EI-390112J	4-IC1	EW-387930J	10-2				
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AKAI

MODEL CD-25

SCHEMATIC DIAGRAMS AND PC BOARDS

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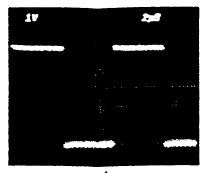


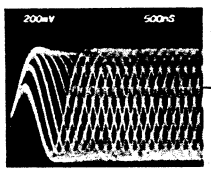
IC4 CXD1135Q (DIGITAL SIGNAL PROCCESOR)

SUBCODE SYNC DETECTOR
SUBCODE DEMODULATOR
SUBCODE Q REGISTER
SCOR
SQCK
SUBQ
CRCF
MUTG
HF
SLICE LEVEL
EFM-PLL
23 BIT SHIFT REGISTOR
EFM DEMODULATOR
GFS
FSW
M ON
M DP
M DS
LOCK
CLV SERVO CONTROL
FRAME SYNC DETECTOR/ PROTECTOR/INSERTER
ERROR DETECTOR/ CORRECTOR
VCO OUT
VCO IN
VCO CIRCUIT TIMING GENERATOR
INTERPOLATOR
X1 16.9344MHz
X'TAL OUT
X'TAL IN
X'TAL CURCUIT TIMING GENERATOR
DIGITAL FILTER
SELECTOR
BCK
DATA
LRCK
DIGITAL OUT
DIGITAL OUT
WDCK
TRACKING COUNTER
CPU INTERFACE
RAM ADDRESS GENERATOR
CN IN
RESET
CLK
LT
DATA
SENS
RAWE
RACS

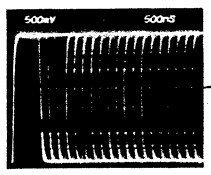
IC4 LC3517BS-15
16kbit S-RAM
RAWE
BCK
DATA
LRCK

IC9 PD0034 (DIGITAL F
RAM
MPY
ACC
ROM
SI→PA
TIMING GENERATOR

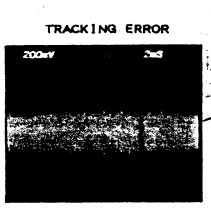
EYE PATTERN



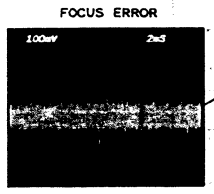
EFM



TRACKING ERROR



FOCUS ERROR



PICK UP BLK
KSS-150A

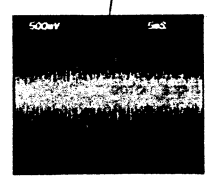
IC1 CXA1081 (RF-AMP)

+5V
TP
R44
TR1
LD DRIVE
APC LD AMP
APC PD AMP
PD
LD
A
B
C
D
F
E
RF, I-V AMP
RF SUMMING AMP
AUTO ASYMMETRY CONTROL AMP
F, I-V AMP
E, I-V AMP
TRACKING ERROR AMP
FOCUS ERROR AMP
RF BALANCE
VR1
R6
R7
VR2 FOCUS OFF-SET
LD ON
FOK AMP
FOCUS OK
EFM COMPARATOR
TRACKING ERROR
FOCUS ERROR
P6
FOCUS COIL
TRACKING COIL
SPINDLE MOTOR
SLED MOTOR

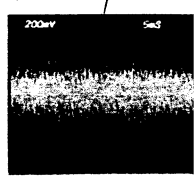
TR9, 10 DRIVER
VR4 TRACKING GAIN
VR3 FOCUS GAIN
TR2, 3 DRIVER

FSW
MON
MDP
LOCK
C864
3.5V
VCOF
DVCC
CLV LPF
SPDL⊖
SPDL ⊙
VCO
WDCK
FOK
MIRR
DVEE
DFCT
TE
TZC
ATSC
FE
TTL — 12L
I²L DATA REGISTER IN
SEQUE
OUT
FS1 to 4 TO
BPF
WINDOW COMPARATOR
FOCUS PHASE COMPENSATION
FS4
FS2
FS3
FLB
FEO
FE⊖
SRCH
VC
FGD

TR17, 18 POWER OFF DETECTOR
IC12 AN7805 +5V REG
TR1, 13 -30V REG
IC13 AN7905 -5V REG
D1~D4
D6
D5
F1
F2
+9V
+5V
-30V
-5V
-9V
POWER SW PCB



FOCUS SERVO

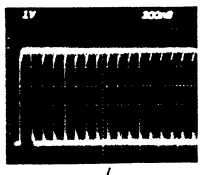


TRACKING SERVO

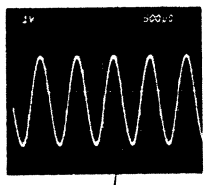
F G H I J K

1 2 3 4 5 6 7 8

DIGITAL DATA



ANALOG SIGNAL OUT



PD0034 (DIGITAL FILTER)

PA→SI

RAM

MPY

ACC

ROM

→PA

TIMING GENERATOR

IC8 TDA1543A
(D/A CONVERTER)

BCK
LEC
DATA

BCK
SW
DATA
GND
AOR
Vref
AOL
Vdd

→ Rch

Lch

INTEGRAM TOR

IC10·C63·R68

R69
R77

DE-EMPHASIS

TR22
DE-EMPHASIS ON/OFF CONTROL

IC11
NJM4558DA

20KHz

3rd ACTIVE LOW PASS FILTER

R76

TR23
MUTE

VR100
PHONES LEVEL

IC100
NJM4556D

Amp

HEADPHONE Amp

RCH

PHONES

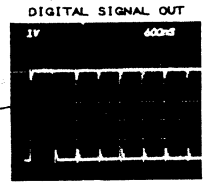
TR101
MUTE

LCH

LINE OUT
(ANALOG)

HEAD PHONE PCB

DIGITAL SIGNAL OUT



+5V

R71

IC14
74HC08P

3/4
2/4
1/4

DIGITAL SIGNAL

T1

R13

COAXIAL

DIGITAL OUT

D18

IC5 HD6140815A48
(SYSTEM CONTROL MI-COM)

IN1 FV365

SUB CODE SIGNAL

TR20

EMPHASIS ON/OFF

SUBQ
SQCK
QFS
CRCF
MUTING

SEGMENT DATA OUT
S1
S8
S9

PROG
REPEAT

LOOP FILTER

C24
C23
R20
QFS
TR8

SCOR

IC15
74HC00P

4/4
3/4
2/4

SCOR/SENS

LD ON
FOK

VR5
PLL

LOCK
C654
3.5V
VCOF
1SET
PDI
BW
D.GND
CLK

VCO
LOOP FILTER
3.5V REGULATOR
V→I

TTL
I²L

XLT
DATA
XRST
DIRC
COUT
AVEE
SENS
F.SET
S.STOP
SLIDE
SL
SL0

DSLCT

DATA OUT
CLOCK OUT
LT
RESET OUT

I²L DATA REGISTER INPUT SHIFT REGISTER
ADDRESS DECODER
SEQUENCER
OUTPUT DECODER

FS1to4 TG1to2 TM1to7 PS1to3

D19
D20
D24
D22
RESET CIRCUIT
POWER OFF

RESET

TR19

IN SW
OPEN DET.
CLOSE DET.

STOROBE DATA OUT
1Q
6Q

KEY RETURN
KEY1
KEY3

OPERATION KEY MATRIX

M01
M02

REMOTE CONTROL DATA INPUT

RM1
REMOTE CONTROL RECEIVER

OPERATION SW PCB

TG1

TRACKING PHASE COMPENSATION

WINDOW COMPARATOR

TM6
TM5
TM4
TM3
TM7
TM2

FS1
FS2
TG2

FOCUS PHASE COMPENSATION

TR6, 7
DRIVER

FLB FEO FE SRCH TGU TG2 AVCC TAO TA

IC2 CXA1082BS
(SERVO)

TR4, 5
DRIVER

IC7 BA6229
(REVERSIBLE MOTOR DRIVE)

LOGIC
PRE DRIVE
DRIVE

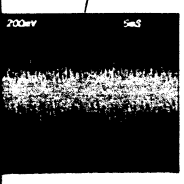
D16

LOADING MOTOR

OPEN
CLOSE

PICK UP INITIAL POSITION DETECT

DISC TRAY POSITION DETECT



TRACKING SERVO

CD-25
BLOCK DIAGRAM
NO. PB02051M
3

IC3 CXD1135Q
IC4 LC3517BS-15
S-RAM
X1 16.9344MHz
IC9 PD0034
IC8 TDA1543A
IC10 NJM4558DA
IC11 NJM4558DA
TR22 2SC945(PA, QA)
IC1 CXA1081S
IC2 CXA1082BS
PICK UP KSS-150A
FOCUS COIL
TRK COIL
P1
P2
TR1 2SA733 (P, Q)
TR24 2SA733 (P, Q)
TR9 2SD1189 (P, R)
TR10 2SB891 (P, R)
IC12 AN7805
IC13 AN7905
TR17 2SC945 (PA, QA)
TR18 2SA733 (P, Q)
TR2 2SD1189 (Q, R)
TR3 2SB903M (Q, R)
TR4 2SD1189 (Q, R)
TR5 2SB891 (Q, R)
D1 to D11 1SR139-100
D15 1SS131
POWER SW PCB P2054A501E
POWER SUPPLY PCB P2054A501B
MAIN PCB P2054A501A
TRACKING GAIN
FOCUS GAIN
FOCUS OFFSET
E-F BALANCE
WARNING: ⚠AND ■ INDICATE SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS
AVERTISSMENT: ⚠ET ■, ILS INDIQUENT LES COMPOSTANTS CRITIQUES DE SÉCURITÉ, POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDEES PAR LE FABRICANT
B (POWER SUPPLY) LINE
SIGNAL LINE
TRACKING SERVO LINE
FOCUS SERVO LINE
SPINDLE MOTOR SERVO LINE
SLED MOTOR SERVO LINE
INDICATED VOLTAGES ARE MEASURED AT PLAY MODE

F G H I J K

HEAD PHONE PCB P2054A501D

U V MODEL
C114 0.001 (K)
LCH
C115 0.022 (Z)
RCH
C114b
U V MODEL
J3
ANALOGUE OUT

W103
Rch 1
GND 2
GND 3
Lch 4
MUTE 5
+9V 6
−9V 7

VR100 10KX2
H-P VR
R201 1K
R202 1.5K
R203 2.7K
R205 180
R206 150
R207b 1K
R207
R201b
R202b
R203b
R205b
R206b
IC100 NJM4556D
R204 2.2K
TR101 2SC2878 (A-B)
C301 220P (K)
J100
PHONES
TR101b
R204b
C301b

TR27 2SC3383 (S.T.U)
R102 2.2K
C81 47/16 (M)
TR28 2SA1392 (S.T.U)
R101 2.2K
C80 47/16 (M)
TR23 2SC945 (PA, QA)
R78 2.2K
TR23b
R78b
C68 22/25 (M)
R76 1K
C68b
R76b
R75b
C118 0.022 (Z)
U V MODEL

IC11 NJM4558DA
R70 4.3K
R71 4.7K
C65 0.011
C66 120P
R74 10K
R75 47K
R70b
R71b
C65b
C66b
R74b
C63 3.3/16 (M)

TR20 2SA733 (P, Q)
R64 1K
R65 100K
R67 27K
R68 27K
C83 10/25 (M)
C53 0.1/50 (M)

TR8 2SC945 (PA, QA)
R23 33K (F)
R24 33K (F)
R25 10K
R20 100K
R21 10K
C86 0.47/50 (M)
C23 0.01
C24 10/25 (M)
R26 120K

IC5 HD6140815A48
D11 D10 D9 D8 D7 D6 D5 D4
D15 (S9) R00 (S1) R01 (S2) R02 (S3) R03 (S4) R10 (S5) R11 (S6) R12 (S7) R13 (S8)
R20 R21 R22 R23
L SW CRSF SUBQ SQCK GND OSC2 OSC1 TEST RESET POW SW IN SW OP SW CL SW
DO MUTE SYNC XRST XLT DATA R41 SQK
VP FOR GFS INT0 INT1 F.MESECAM EMP MUTG VCC
SR1 22KX3
SR2 22KX4
R111 1M
X2 4.23MHz
R120 22K

C123 0.0056 (Z)
C124 0.022 (Z)
L1 100μH (K)
C122 33/16
C21 0.01
R19 510K
R18 100K
C20 0.0022 (K)
R16 220K
R17 8.2K
C16 0.1
C15 4.7/25 (M)
C17 33/16 (M)
R12 82K
R14 15K
C106 150P
C19 33/16 (M)
R13 150K
C108 0.01

R66 270
D30 RD5.6EB2
R62 750
TR21 2SA733 (P, Q)
D18 1SS131
R107 10K
R106 10K
TR26 2SC945 (PA, QA)
D20 D22 D23
R63 3K
D21
C87 10/25 (M)
C52 100/10 (M)
D19 1SS131
D24 1SS131
TR26 2SC945 (PA, QA)
D20 to D23 1SS131
TR21 2SA733 (P, Q)

C78 0.01
C79 10/25 (M)
T1
R100 75
J4
DIGITAL OUT (COAXIAL)
C91 0.022 (Z)
C93 0.022 (Z)
C92 33/16 (M)
R95 22K
IC14 TC74HC08P
IC15 TC74HC00P

FV365
1G 2G 3G 4G 5G 6G
PROG
REPEAAT
IN1

W102
GND +5V RMT D7 D6 D5 D4 R20 R21 R22
D26 D27 D28 D29
D26 to D29 1SS131
OUT +1.5V GND
RM1
AIQH3121HO

TR19 2SC945 (PA, QA)
R61 10K
D25 1SS131

TS1 TS2 TS3 TS4 DISP
TS5 TS6 TS7 TS8
RANDOM
TS9

OPERATION PCB P2054A501C

TR6 2SD1225M (Q, R)
TR7 2SB905M (Q, R)
C96 100P
C95 100P
R38 100
R39 100
C117 0.022 (Z)
MODEL
R49 2.2K
R48 2.2K
IC7 BA6109
GND VOUT1 Iz1 VR F IN R IN VCC1 VCC2 Vz2 VOUT2
D16 9.1EB1
C39 0.022 (Z)
R32 1/2W 1.2 (FS)
C40 0.022 (Z)

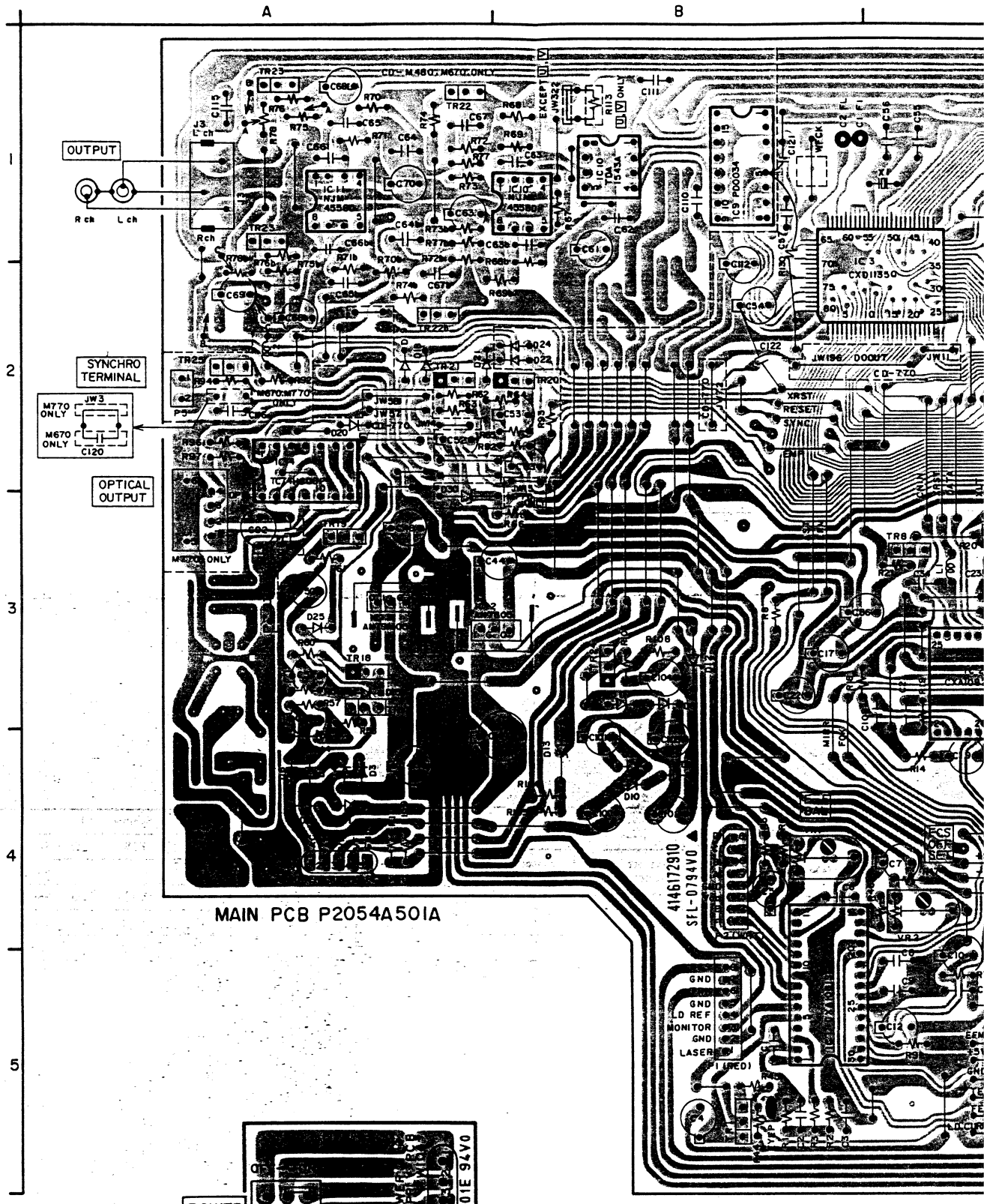
P3 PICK IN GND SPINDLE GND SLED GND
P4 OPEN SW GND CLOSE SW OUT IN
SLED MOTOR
M901
M902
SPINDLE MOTOR
M903
LOADING SW
INNER SW
SW901
OPEN/CLOSE SW
SW902

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/6W (J)
ALL CAPACITORS IN μF 50 WV (J)

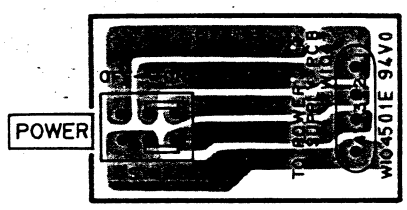
CD−25
SCHEMATIC DIAGRAM
NO. PB02001M
5

1 2 3 4 5 6 7 8

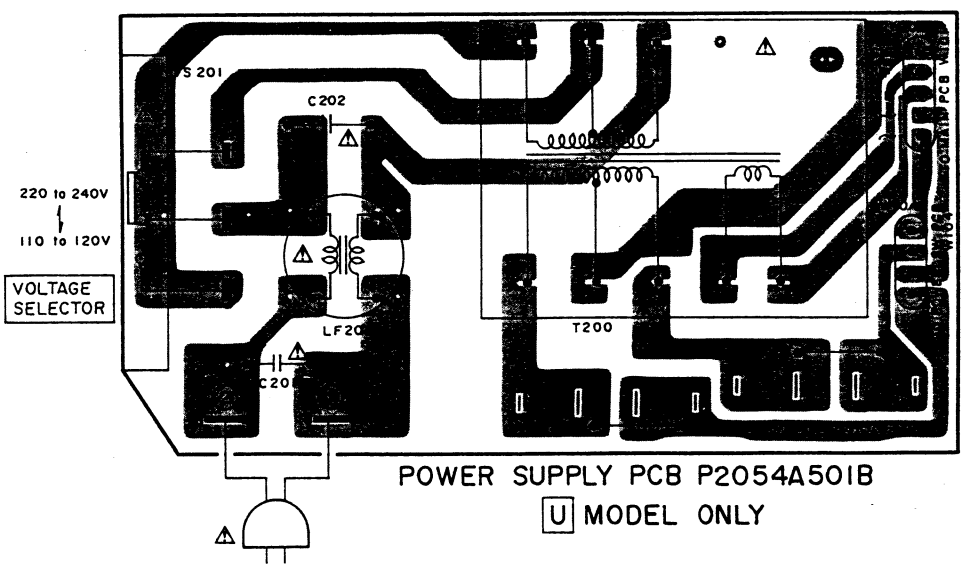
F G H I J K



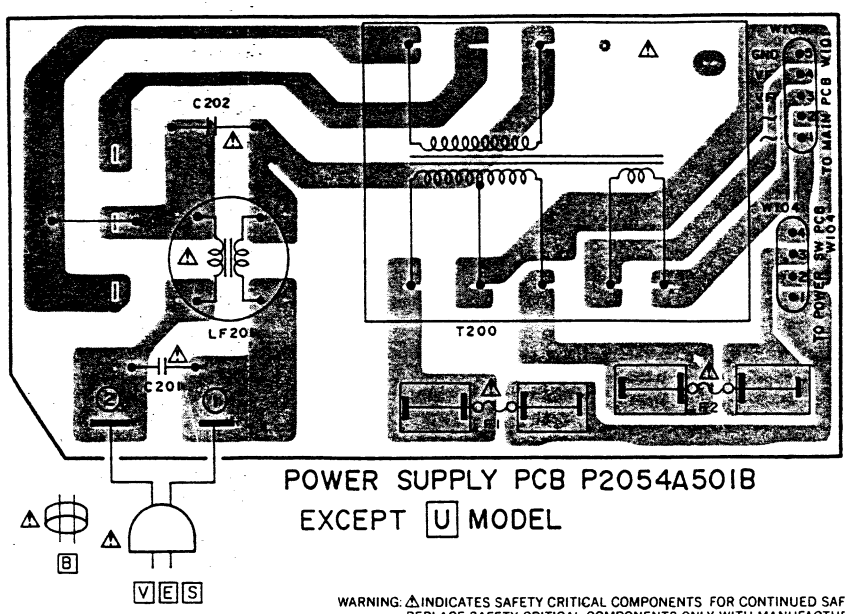
MAIN PCB P2054A501A



POWER SW PCB
P2054A501E



POWER SUPPLY PCB P2054A501B
U MODEL ONLY

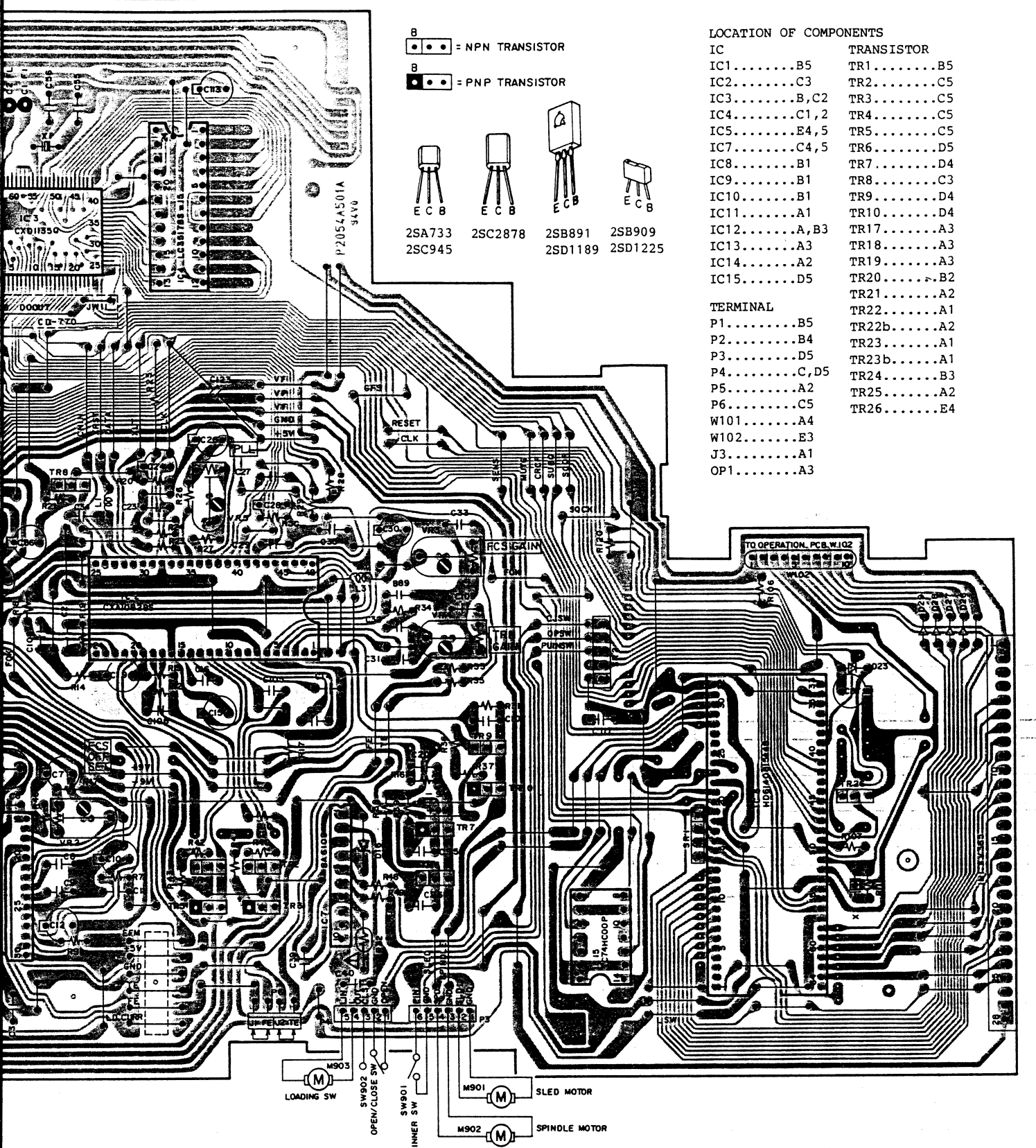


POWER SUPPLY PCB P2054A501B
EXCEPT U MODEL

WARNING: ⚠ INDICATES SAFETY CRITICAL COMPONENTS FOR CONTINUED SAF
REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTUR
RECOMMENDED PARTS

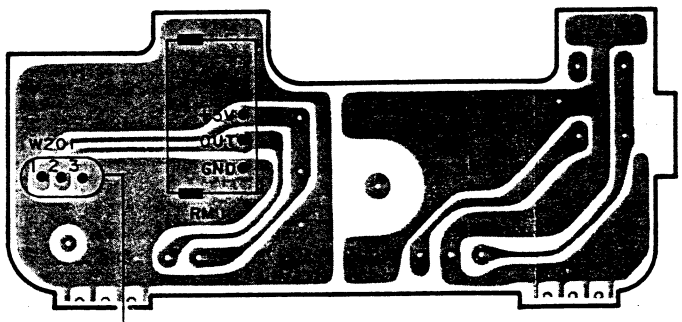
AVERTISSEMENT: ⚠ IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ.
POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL,
NE REMPLACER QUE DES PIÈCES RECOMMANDEES PAR LE FABRICA

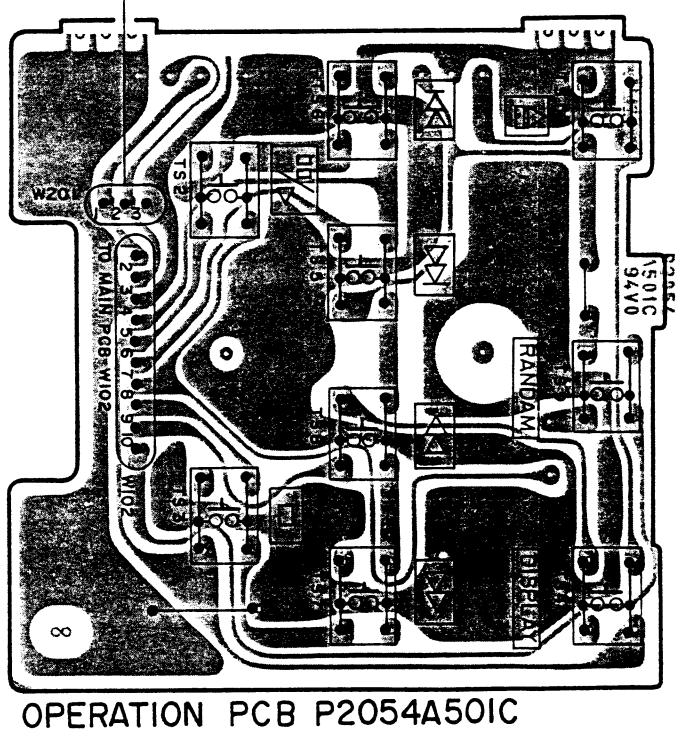
C D E



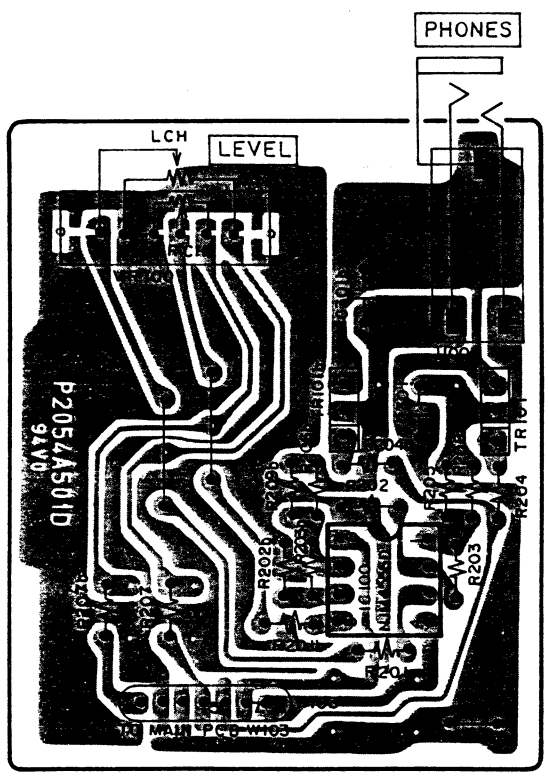
LOCATION OF COMPONENTS

IC	TRANSISTOR
IC1.....B5	TR1.....B5
IC2.....C3	TR2.....C5
IC3.....B,C2	TR3.....C5
IC4.....C1,2	TR4.....C5
IC5.....E4,5	TR5.....C5
IC7.....C4,5	TR6.....D5
IC8.....B1	TR7.....D4
IC9.....B1	TR8.....C3
IC10.....B1	TR9.....D4
IC11.....A1	TR10.....D4
IC12.....A,B3	TR17.....A3
IC13.....A3	TR18.....A3
IC14.....A2	TR19.....A3
IC15.....D5	TR20.....B2
	TR21.....A2
TERMINAL	TR22.....A1
P1.....B5	TR22b.....A2
P2.....B4	TR23.....A1
P3.....D5	TR23b.....A1
P4.....C,D5	TR24.....B3
P5.....A2	TR25.....A2
P6.....C5	TR26.....E4
W101.....A4	
W102.....E3	
J3.....A1	
OP1.....A3	

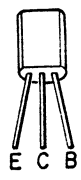




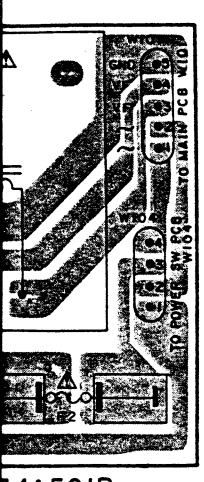
OPERATION PCB P2054A501C



HEAD PHONE PCB P2054A501D



2SC2878

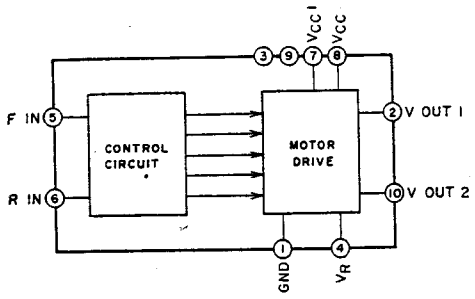


54A501B

PONENTS FOR CONTINUED SAFETY.
ENTS ONLY WITH MANUFACTURER'S

TS CRITIQUES DE SÉCURITÉ.
URITÉ DE L'APPAREIL,
COMMANDEES PAR LE FABRICANT

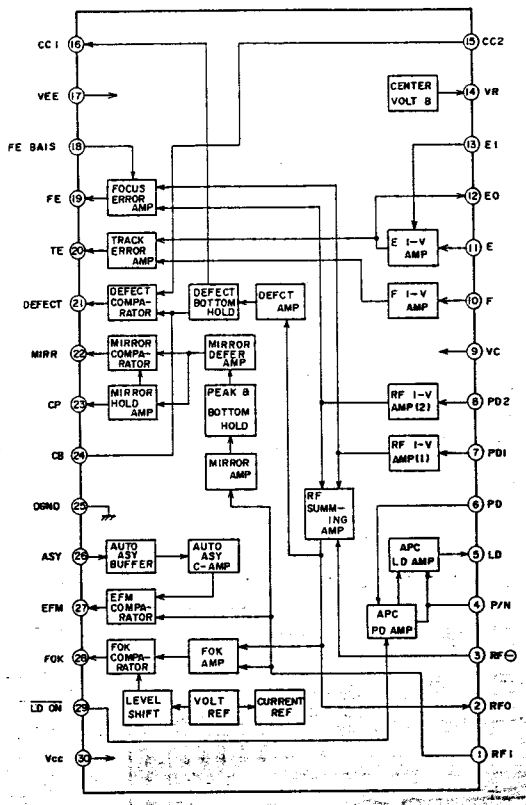
BA6109 (REVERSIBLE MOTOR DRIVE)



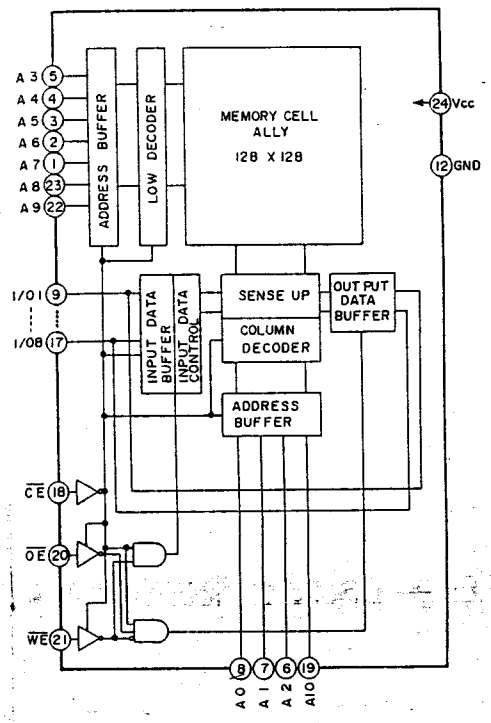
F IN	R IN	V OUT 1	V OUT 2
I	I	L	L
O	I	L	H
I	O	H	L
O	O	L	L

I = MORE THAN 2.0V
O = LESS THAN 0.7V

CXA1081S (RF-AMP)



LC3517BS-15 (16K BIT S-RAM)



PD0034 (DI

Pin No.	
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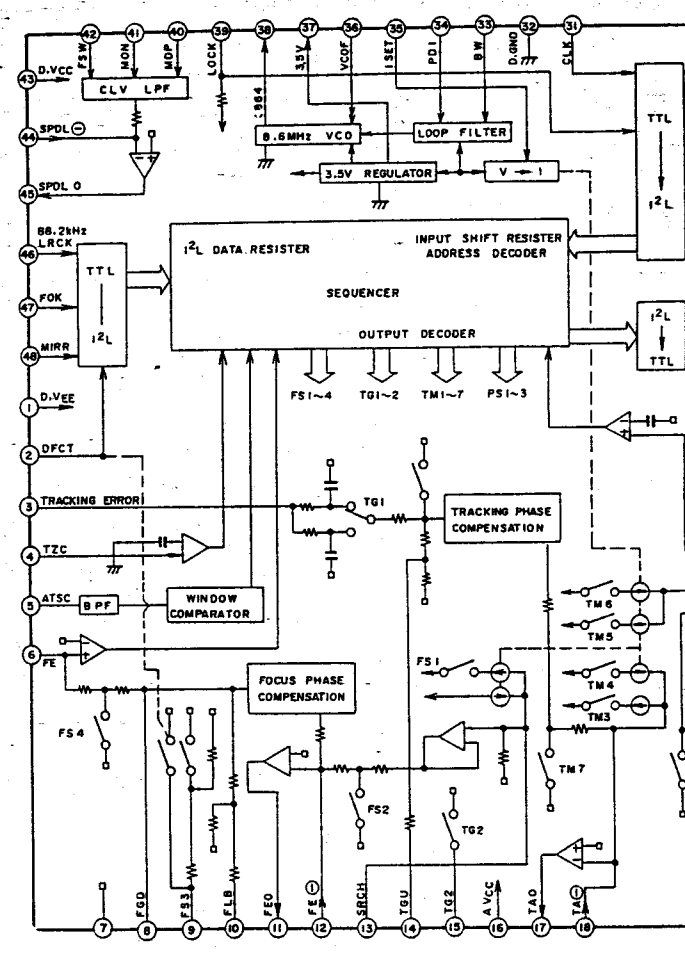
HD6140815A48 (SYSTEM CONTROL MI-COM)

Pin No.	Symbol	I/O	Description
1	Vcc	I	+5V power supply
2	SUBQ	I	Sub code-Q data input
3	SQCK	O	Reading clock output of sub code-Q data
4	LSW	O	Laser diode ON/OFF control output
5	EMP	O	Emphasis ON/OFF control output
6	FOK	I	Focus "OK" (Pick up is in focus) detect signal input
7	GFS	I	PLL(Frame sync) condition detect signal input("H": PLL lock, "L": PLL unlock)
8	MO1	O	Motor control output for LOADING and OUTPUT VOLUME motors (Refer to pin 22 and 23)
9	INSW	I	Initial position detect signal input of pick up
10	CRCF	I	Result input of CRC(Error) check from LSI(CXD1135)
11	MUTG	O	Muting control output for LSI(CXD1135)
12	PSW	I	Input of power ON/OFF detect signal
13	OPSW	I	Input of disc tray open detect signal
14	CLSW	I	Input of disc tray close detect signal
15	RST	O	Reset signal output for LSI(CXD1135)
16	LT	O	Latch signal output of data transfer to LSI(CXD1135)
17	CLK	O	Clock signal output of data transfer to LSI(CXD1135)
18	DATA	O	Command data output to LSI(CXD1135)
19	MUTE 2	O	Mute control output during peak level search
20	AIN	I	Rectified audio signal input for peak level detection
21	SENS	I	Not used
22	MO2	O	Motor control output for LOADING and OUTPUT VOLUME motors
23	MO3	O	
24	REMO	I	Remote control receive searial data input
25	SCOR	I	Not used
26	CNVss		GND
27	RST	I	Reset signal input
28	XIN	I	X'tal connection terminal
29	XOUT	O	X'tal connection terminal
30	XCIN	I	Not used
31	XCOUT	O	Not used
32	Vss	O	GND
33			Notused
34	KS4	I	Key scan input
35	KS3	I	
36	KS2	I	
37	KS1	I	
38	Vp	I	-30 V
39			Not used
40			Not used
41	S16	O	Segment data output for FL display
42	S15	O	
43	S14	O	
44	S13	O	
45	S12	O	
46	S11	O	
47	S10	O	
48	S09	O	
49	S08	O	
50	S07	O	
51	S06	O	
52	S05	O	
53	S04	O	
54	S03	O	
55	S02	O	
56	SO1	O	
57	8G	O	Digit output for FL display and key scan
58	7G	O	
59	1G	O	
60	2G	O	
61	3G	O	
62	4G	O	
63	5G	O	
64	6G	O	

	STOP	TRAY OPEN	TRAY CLOSE	VOLUME UP	VOLUME DOWN
MO1	L	H	H	L	L
MO2	L	L	L	H	H
MO3	L	H	L	L	H

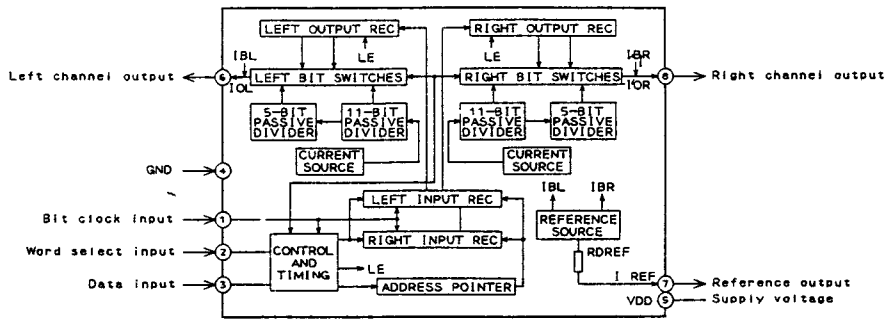
CXA1082BS (SERVO CONTROL)



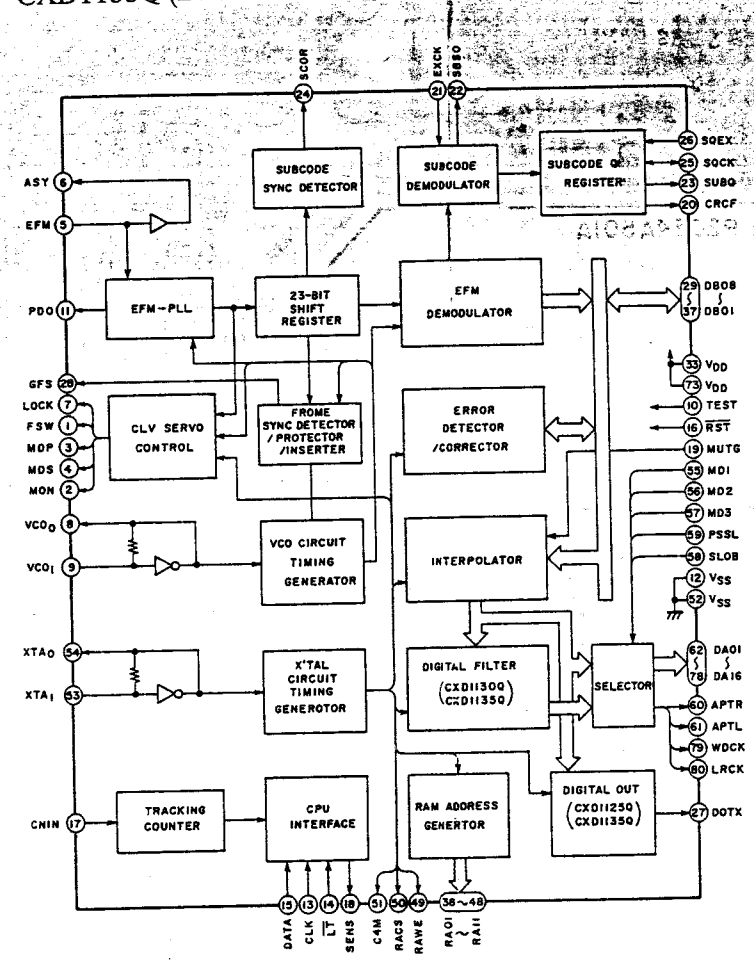
00034 (DIGITAL FILTER)

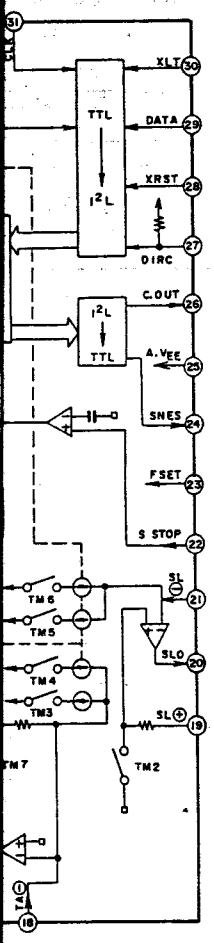
Pin No.	Symbol	I/O	Description
1	XIN	I	Crystal OSC input or external input
2	XOUT	O	Crystal OSC output
3	CKS	I	H level:16.9344MHz L level:8.4672MHz
4	CKOUT	O	CKS=H level:16.9344MHz CKS=L level:8.4672MHz
5	LRCK	I	LR CLOCK input
6	DATA	I	Serial data input
7	BCLK	I	Bit clock for INPUT DATA
8	VSS		GND
9	LCOUT	O	Use for 2 DAC L ch clock output
10	SHR	O	R ch sample and hold plus output
11	SHL	O	L ch sample and hold plus output
12	DOUT	O	Serial data output
13	WOUT	O	WORD CLOCK output
14	LROUT	O	LR select clock output
15	BOUT	O	Bit clock output for DOUT
16	VDD		+5V power supply

TDA1543A (D/A CONVERTER)



CXD1135Q (DIGITAL SIGNAL PROCCESOR)





No.	Symbol	I/O	Description
1	FSW	O	Spindle motor filter switching control
2	MON	O	Spindle motor ON/OFF control
3	MPD	O	Spindle motor speed and phase control
4	MDS	O	Spindle motor speed control
5	EFM	I	EFM signal input
6	ASY	O	EFM signal slice level control
7	LOCK	O	Slide motor over reach guard signal output
8	VCOO	O	VCO output f=8.6436 MHz
9	VCOI	I	VCO input
10	TEST	I	OV (GND)
11	PDO	O	Phase comp.output
12	VSS	—	GND (OV)
13	CLK	I	Clock signal from CPU
14	$\overline{LT}$	I	Lutch signal from CPU
15	DATA	I	Serial data from CPU
16	$\overline{RST}$	I	RESET input "L" reset
17	CNIN	I	Tracking pulse input (5V)
18	SENS	O	Output of CPU interface
19	MUTG	I	Mute control signal input
20	CRCF	O	CRC check output of the subcode Q "L" detect error
21	EXCK	I	NOT USE
22	SBSO	O	NOT USE
23	SUBQ	O	Subcode Q output
24	SCOR	O	Subcode sync detection output
25	SQCK	I/O	Clock signal for subcode Q
26	SQEX	I	Select input of CQCK (+5V)
27	DOTX	O	Digital output
28	GFS	O	"H" frame sync lock "L" frame sync unlock
29	DB08	I/O	Data 8 (MSB) Data Bus line for the EXT.RAM (LC3517AS-15)
30	DB07	I/O	Data 7 Data bus line for the EXT.RAM (LC3517AS-15)
31	DB06	I/O	Data 6 Data Bus line for the EXT.RAM (LC3517AS-15)
32	DB05	I/O	Data 5 Data Bus line for the EXT.RAM (LC3517AS-15)
33	VDD	—	+5V
34	DB04	I/O	Data 4 Data Bus line for the EXT.RAM (LC3517AS-15)
35	DB03	I/O	Data 3 Data Bus line for the EXT.RAM (LC3517AS-15)
36	DB02	I/O	Data 2 Data Bus line for the EXT.RAM (LC3517AS-15)
37	DB01	I/O	Data 1 (LSB) Data Bus line for the EXT.RAM (LC3517AS-15)
38	RA01	O	ADDR01 (LSB) Address signal output for the EXT. RAM (LC3517AS-15)
39	RA02	O	ADDR02 Address signal output for the EXT. RAM (LC3517AS-15)
40	RA03	O	ADDR03 Address signal output for the EXT. RAM (LC3517AS-15)

ABBREVIATIONS (COMPACT DISC)

ABBREVIATION	EXPLANATION	ABBREVIATION	EXPLANATION
A-D	Analog to Digital (Convertor)	Mb	Mega Bits
ADC	Analog to Digital (Convertor)	MDA	Motor Drive Amplifier
BCD	Binary Code Decimal	MFM	Modified Frequency Modulation
BPI	Bits per Inch	MM	Mono-stable Multivibrator
CD	Compact Disc	M^2FM	Modified Modified Frequency Modulation
CIRC	Cross Interleaving & Reed Solomon Coding	MOD2	Modulo 2 (Addition)
CLV	Constant Linear Velocity	MP	Microprocessor
CP	Clock Pulses	MSB	Most Significant Bit
CRCC	Cyclic Redundancy Check Codes	NA	Numerical Aperture
D Level	Decision Level	NRZ	Non Return to Zero
D-A	Digital to Analog (Convertor)	NRZ-I	Non Return to Zero Inverted
DAC	Digital to Analog (Convertor)	P	Parity Data
DAD	Digital Audio Disc	PAM	Pulse Amplitude Modulation
DEM	Dynamic Element Matching	PCM	Pulse Code Modulation
DPD	Differential Phase Detection	PD	Phase Detector
DSV	Digital Sum Value	PE	Phase Encode
EFM	Eight to fourteen Modulation	PLL	Phase Locked Loop
EX-0R	EXclusive OR	PNM	Pulse Number Modulation
FCI	Flux Changes per Inch	PPM	Pulse Phase Modulation
FIR	Finite Impulse Response	PWM	Pulse Width Modulation
FP	Front Pulse	Q	Parity Data
FPG	Front Pulse Gate	R,R_1,R_2, etc.	Data for Right Channel
f	Frequency of Sampling	RAM	Random Access Memory
GF	Galois Field	RPG	Rear Pulse Gate
H&V (Parity)	Horizontal & Vertical	SCOOP	Self Coupled Optical Pick-up
IIR	Infinite Impulse Response	S&H	Sample & Hold
kb	Kilo Bits	S/N	Signal to Noise Ratio
L,L_1,L_2, etc.	Data for Left Channel	SSG	Standard Signal Generator
LPF	Low Pass Filter	SYS CON	SYStem CONtrol
LSB	Least Significant Bit		

AKAI ELECTRIC CO., LTD.

12-14, 2-Chome, Higashi-Kojiya, Ohta-ku, Tokyo, Japan
SERVICE DEPARTMENT TEL:TOKYO (745)9884 TELEX: J26261
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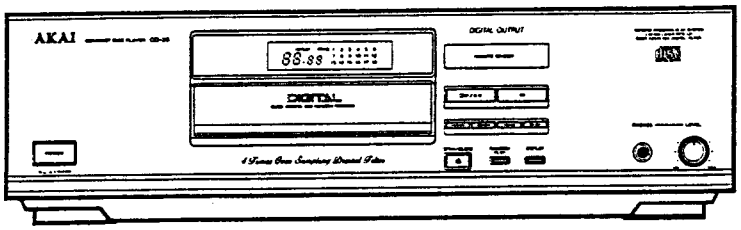
AKAI SERVICE MANUAL
(ADDITIONAL)

Use this CD-26/36 service manual together with the AKAI CD-25 service manual.
For schematic diagrams and PC Boards please refer to those provided for the CD-25 model.



MODEL CD-26

COMPACT DISC PLAYER

MODEL CD-26/36

SPECIFICATIONS

Pick-up	3 beam Laser pick-up
Sampling frequency	44.1kHz
Digital filter	16 bit, 4 times over sampling
D/A converter	16 bit linear
Error correction system	Cross Interleave Reed Solomon
Number of channels	2 channel stereo
Frequency response	4Hz to 20kHz ± 0.5dB
Dynamic range	92dB
S/N	100dB
Total harmonic distortion	0.013%
Wow & flutter	Less than measurable limits
Output level/Impedance	
Analog output	2V (0dB)
Digital output	0.5Vp-p/75 ohms
Headphone output	70mW/32 ohms
Power requirements	220V, 50Hz for Europe except UK 240V, 50Hz for UK and Australia 110V-120V/220V-240V, 50Hz/60Hz convertible for other countries
Dimensions	425(W)×121(H)×343(D)mm (16.7×4.8×13.5 inches)
Weight	3.6kg (7.9 lbs)

* For improvement purposes, specifications and design are subject to change without notice.

MODEL CD-26

9. FINAL ASSEMBLY

Ref.No.	Part.No.	Description
1	SP-732543T	PANEL FRONT CD-26
2	SK-732551T	KNOB FUNCTION CD-26
3	SP-732545T	PANEL TRAY CD-26
4	SC-731147T	TOP COVER CD-25
5	SE-732548T	PLATE DISPLAY
6	SK-732549T	KNOB POWER (B)
7	SA-731154T	RING FOOT
8	SA-731156T	SHEET FOOT (F)
9A	*BT-730709T	TRANS POW EI-48K (E,V) [E]
9B	*BT-730710T	TRANS POW EI-48K (B,S) [B]
9C	*BT-730718T	TRANS POW EI-48K (U) [U]
10A	*EW-336923	AC CORD 2C KP-419C,LTCE-2F EV [E]
10B	*EW-727063T	AC CORD BS6500 (B) [B]
10C	*EW-731025T	AC CORD UL 6.5F BLK2 SPT2 [U]
11	*EZ-730703T	STRAIN RELIEF SR-4K-6
12	ZS-365702	PLX BID30X10STL BNI
13	SM-365756C	NAME PLATE AKAI (2)
15	SK-732554T	KNOB VR (B)
16	SA-731155T	SHEET FOOT (R)
17	SE-732556T	REMOCON SHEET

NOTE:
Parts will not be supplied if they are not listed in the parts list, even if they appear on the assembling illustrations with reference No.

MODEL CD-36

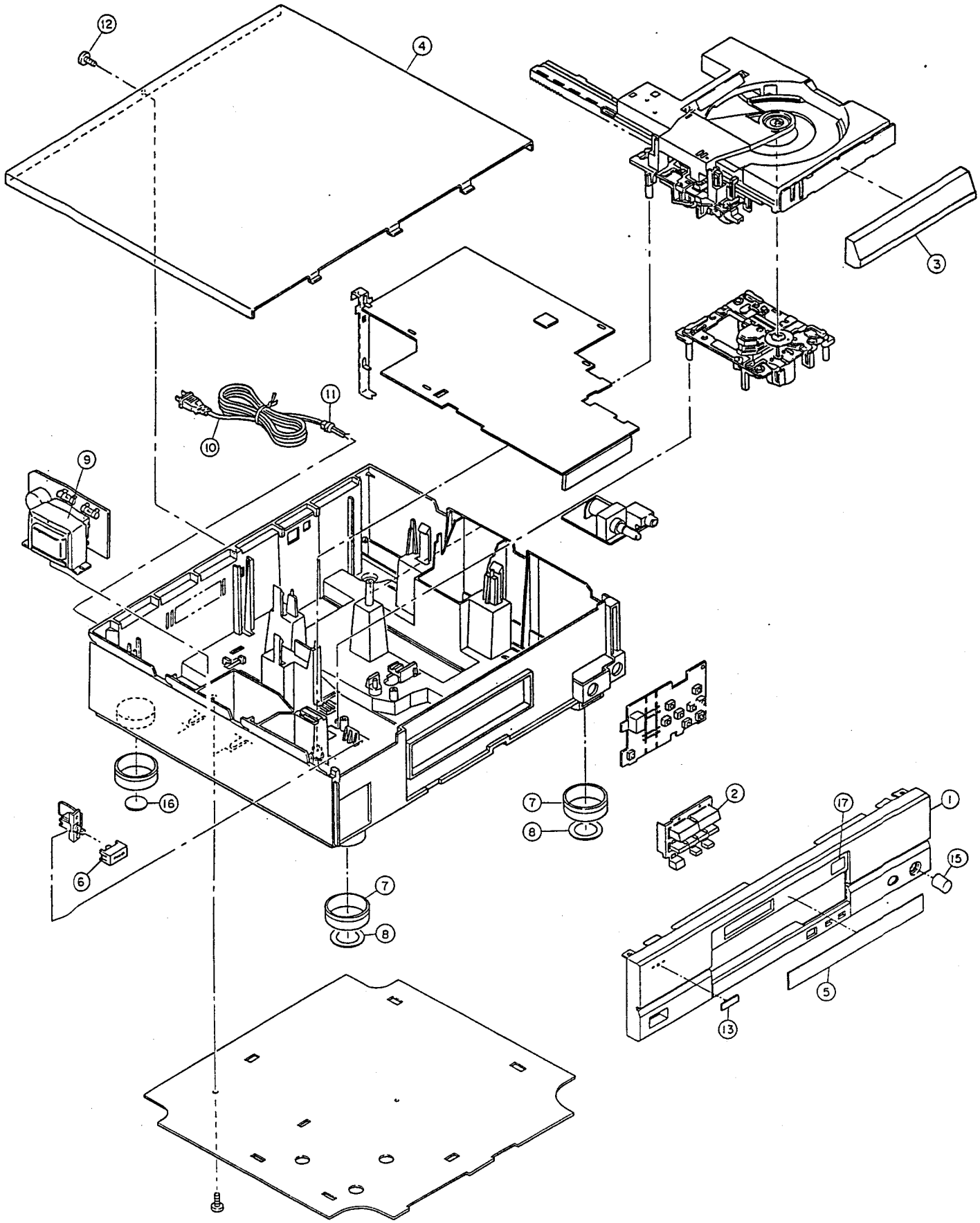
9. FINAL ASSEMBLY

Ref.No.	Part No.	Description
1	SP-732544T	PANEL FRONT CD-36-B
2	SK-732552T	KNOB FUNCTION CD-36-B
3	SP-732546T	PANEL TRAY CD-36-B
4	SC-731147T	TOP COVER CD-25
5	SE-732548T	PLATE DISPLAY
6	SK-373236B	KNOB POWER-B
7	SA-731154T	RING FOOT
8	SA-731156T	SHEET FOOT (F)
9	*BT-730709T	TRANS POW EI-48K (E,V) [E]
10	*EW-336923	AC CORD 2C KP-419C,LTCE-2F EV [E]
11	*EZ-730703T	STRAIN RELIEF SR-4K-6
12	ZS-365702	PLX BID30X10STL BNI
13	SM-365756C	NAME PLATE AKAI (2)
15	SK-731150T	KNOB VR
16	SA-731155T	SHEET FOOT (R)
17	SE-732556T	REMOCON SHEET
18	SP-732557T	PANEL DECORATION CD-36-B

NOTE:
Parts will not be supplied if they are not listed in the parts list, even if they appear on the assembling illustrations with reference No.

MODEL CD-26

FINAL ASSEMBLY BLOCK



MODEL CD-36

FINAL ASSEMBLY BLOCK